

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

**CAREER PSYCHOLOGY FACTORS AS  
ANTECEDENTS OF CAREER SUCCESS OF  
WOMEN ACADEMICS IN SOUTH AFRICA**

**SARAH RIORDAN**

Thesis Presented for the Degree of

**DOCTOR OF PHILOSOPHY**

Department of Management Studies

FACULTY of COMMERCE

**UNIVERSITY OF CAPE TOWN**

August 2007

The financial assistance of the National Research Foundation (NRF) is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and should not be attributed to the NRF.

UT 658 R10R

824176

University of Cape Town

## **ABSTRACT**

The difference in career success among male and female academics is well-documented and a number of qualitative studies have offered explanations about the challenges faced by women academics. This study provided an empirical investigation into the relationship between selected career psychology variables and the career success of women academics in South Africa.

This research employed organisational theory to explain career success. The impact of work centrality, motivation, career anchors and self-efficacy on career success was examined. Care-giving responsibility was included as a moderating variable on work centrality. The examination of career theory and the testing of these particular career variables in relation to the career success of academic women have not been conducted before in South Africa. Other studies in the field have typically been qualitative in nature or have focused on explanations why women are often unsuccessful in academia. Those few studies that address career success amongst academic women have been conducted outside of South Africa and thus offer findings from a different context. This study builds on this previous body of knowledge by examining the constructs empirically.

The sample, consisting of 372 women, was drawn from permanently employed women academics in public universities in post-apartheid South Africa. Participants responded to a 102-item questionnaire that was distributed electronically.

In this study, objective career success consisted of sector specific success indicators including: level of qualifications, number of publications, teaching evaluations and community service involvement. All four of these indicators showed a significant, positive relationship with job level. Using structural equation modeling to develop a model of career success produced some findings that contradicted earlier research. Specifically it was found that subjective career success was positively predicted by work centrality, self-efficacy and motivational expectancy. It was negatively predicted by



motivational valence. Objective career success was positively predicted by only one career anchor, autonomy, and negatively predicted by the career anchors of service and entrepreneurial creativity. Unexpectedly, care-giving responsibility did not impact on work centrality.

When the model was examined for differences based on race and career stage, no significant differences were found. However three significant differences in career success were found when the model was examined using job level and length of service as participant classification criteria. Firstly, the more women had motivational expectancy, the more they felt successful (subjective success) and were in the promoted group (objective success). Secondly, the more women from lower job levels valued autonomy as a career anchor, the more qualifications they earned but this relationship disappeared for those who had been promoted to professorial level. Thirdly the negative relationship between entrepreneurial creativity and publication output was significantly stronger for those with less than 10 years service than longer service women.

The results of this study were used to develop a framework of excellence promotion for academic women.

## **ACKNOWLEDGEMENTS**

A number of individuals and groups made the production of this thesis possible. Their assistance is gratefully acknowledged. Sincere thanks go to:

Professor Joha Louw-Potgieter, my supervisor, for faultless professionalism; regular, insightful feedback and encouragement.

Professor Kitty Dumont for technical assistance and support in respect of structural equation modelling and statistical reporting.

All the individuals from 11 universities who approved and distributed the electronic questionnaire, especially Craig Lotter, web master at the Commerce Faculty, University of Cape Town.

All the participants who generously responded to the invitation to complete the questionnaire thus providing a valid sample.

My colleagues at HERS-SA, Desiree Simonis, Lesley Shackleton and Penny Franz who work unstintingly for the advancement of women in the higher education sector in Africa and who supported me throughout this research.

Hilary Buchanan who provided occasional but invaluable word processing assistance.

My friends and family, especially my husband, Tom, who has always encouraged and supported my academic and professional endeavours.

# CONTENTS

	PAGE
CHAPTER ONE	
WOMEN IN ACADEMIA IN SOUTH AFRICA .....	1
The South African Higher Education Landscape .....	2
The new "managerialism" .....	2
Restructuring the landscape .....	4
Redressing inequality .....	6
Academic women .....	8
Academic work .....	8
South African statistics .....	10
Women's work experiences .....	13
The psychological contract .....	16
CHAPTER TWO	
PSYCHOSOCIAL AND CAREER DEVELOPMENT OF ACADEMIC WOMEN .....	19
Psychosocial development .....	19
Identity development .....	20
Identity resolution amongst women .....	23
Menopause .....	25
Career stage development .....	26
Early career stage .....	27
From early to mid-career .....	29
Mid-career stage .....	31
Career paths .....	34
Career patterns .....	34
Opportunity structures .....	36
CHAPTER THREE	
SOCIAL RELATIONSHIPS AND ROLES OF ACADEMIC WOMEN .....	38
Relationships .....	38
Friendships .....	38
Family .....	39
Community .....	43
Spirituality .....	44
Balancing roles .....	45
Unpaid work .....	45
Multiple roles .....	46

## CHAPTER FOUR

<b>CAREER VARIABLES RELEVANT TO ACADEMIC WOMEN .....</b>	<b>49</b>
<b>Career success .....</b>	<b>49</b>
Definition .....	49
Career success of women .....	52
Career success of academics.....	53
<b>Work centrality .....</b>	<b>55</b>
Definition .....	55
Work centrality amongst academics .....	57
<b>Care-giving responsibilities .....</b>	<b>58</b>
<b>Self-efficacy .....</b>	<b>59</b>
Definition .....	59
Women and self-efficacy .....	59
<b>Motivation .....</b>	<b>61</b>
Definition .....	61
McClelland .....	61
London .....	62
Vroom .....	62
<b>Career anchors .....</b>	<b>64</b>
Definition .....	64
Description .....	65
Linking career anchors and academic success .....	66
<b>Research question .....</b>	<b>68</b>
Hypotheses .....	69

## CHAPTER FIVE

<b>METHOD .....</b>	<b>71</b>
<b>Pilot study .....</b>	<b>71</b>
Participants .....	71
Research material .....	72
Procedure .....	72
Results .....	72
<b>Main study .....</b>	<b>74</b>
Participants .....	74
Measuring instrument.....	78
Procedure .....	88

## CHAPTER SIX

GENERATING A MODEL .....	95
Hypothesised model.....	96
Model variables.....	97
Endogenous variables .....	97
Exogenous variables .....	99
Model construction.....	101
Pearson product-moment correlations.....	101
Sub-models.....	103
Final model.....	110
Key trends in the final model .....	112

## CHAPTER SEVEN

EXAMINING THE FINAL MODEL .....	114
Multi-group comparison: Race .....	115
Demographic profile of groups.....	115
Endogenous variables.....	115
Exogenous variables .....	117
Model examination .....	118
Multi-group comparison: Race and career stage.....	121
Demographic profile of groups.....	121
Endogenous variables.....	121
Exogenous variables.....	123
Model examination .....	124
Multi-group comparison: Organisational groups .....	127
Demographic profile of groups.....	128
Endogenous variables.....	128
Exogenous variables.....	130
Model examination .....	131

## CHAPTER EIGHT

VARIABLES EXCLUDED FROM THE FINAL MODEL.....	136
Exogenous variables.....	136
Personal circumstances .....	136
Career anchors .....	138
Opportunity.....	138
Endogenous variables.....	139
NRF rating.....	139

## CHAPTER NINE

DISCUSSION.....	140
Generation of the model.....	140
Job level only .....	140
Publication output and qualifications .....	142
Teaching evaluations and community service involvement.....	144
Subjective career success .....	144
Examination of the model.....	146
Race and career success .....	146
Race, age and career success .....	147
Job level, length of service and career success.....	147
Group differences per variable .....	148
Career success .....	148
Work centrality .....	151
Self-efficacy.....	151
Motivation.....	152
Career anchors .....	153
Excluded variables.....	154
Personal circumstances .....	154
Career Anchors .....	156
Opportunity.....	157
Limitations and further research.....	157

## CHAPTER TEN

STRATEGIES FOR EXCELLENCE .....	159
Universities .....	159
Psychological contracts and budgets.....	159
Differentiated strategies.....	160
Promoted: Sustain excellence .....	161
Plateaued: Stimulate excellence.....	162
Potentials: Establish excellence .....	164
Individuals .....	166
REFERENCES .....	168

## APPENDICES

Appendix A: Contents page of pilot study workshop booklet .....	181
Appendix B: Email message distributed to participants .....	182
Appendix C: Questionnaire .....	183
Appendix D: Questionnaire Sources .....	196
Appendix E: Definition of NRF rating categories.....	197

University of Cape Town

Table 1.1: Women academics in South Africa in 2005 .....	11
Table 1.2: Number and age of senior academics in South Africa in 2005.....	12
Table 1.3: Rated scientists in South Africa in 2005 .....	12
Table 2.1: Erikson's life stage theory.....	21
Table 5.1: Sample description: race and responses .....	75
Table 5.2: Sample distribution: job level.....	76
Table 5.3: Sample description: race, career stage and job level per university.....	77
Table 6.1: Correlations of career success criteria.....	98
Table 6.2: Correlation between work centrality items .....	100
Table 6.3: Correlation between personal circumstances items.....	101
Table 6.4: Correlation matrix: Endogenous and exogenous model variables .....	102
Table 6.5: Hypotheses: Work centrality .....	103
Table 6.6: Path analysis model for work centrality.....	104
Table 6.7: Hypotheses: Motivational factors.....	105
Table 6.8: Path analysis model for motivational factors.....	106
Table 6.9: Hypotheses: Career anchors.....	107
Table 6.10: Path analysis model for career anchors.....	108
Table 6.11: Final path analysis for academic career success.....	111
Table 7.1: Multi-group comparison: Race.....	120
Table 7.2: Demographic profile of race/career stage groups .....	121
Table 7.3: Multi-group comparison: Race and age (as indicator of career stage) ....	125
Table 7.4: Demographic profile of organisational groups.....	128
Table 7.5: Multi-group comparison: Organisational groups.....	132
Table 7.6: Summary of descriptive results.....	134

## FIGURES

Figure 4.1: The relationship between specific career variables and career success. .	68
Figure 6.1: Theoretical model depicting the hypothesised relationship between career variables and academic career success indicators .....	96
Figure 6.2: Work centrality as a predictor of career success.....	104
Figure 6.3: Motivational factors as predictors of career success.....	106
Figure 6.4: Career anchors as predictors of career success .....	108
Figure 6.5: Parameters included in final model of career success .....	111



University of Cape Town

## **CHAPTER ONE**

### **WOMEN IN ACADEMIA IN SOUTH AFRICA**

In January 2005, Larry Summers, President of Harvard University, one of the most-respected institutions of higher learning in the world, caused an outcry amongst academics. He claimed that women did not advance to senior positions in academic institutions because they were not prepared to make the sacrifices that men made, did not have intrinsic ability and were possibly subject to discrimination (in that order). Subsequent retractions from him have not mitigated the impact of his words and have only served to highlight the well-documented position of women within the halls of academe.

This research was not intended as a response to the opinion of (now ex-) President Summers. However, it did pose the question: How is it that with all the apparent evidence to suggest that women struggle to advance to senior positions within universities around the world, some have managed to succeed? What made them special? What, if any, sacrifices have they had to make? Did they possess unique traits that differentiated them from most of the women employed in universities and if so, how do we identify more of these "special" women and propel them to leadership positions?

Numerous articles have been written about the obstacles women face within the academy, the challenge of juggling family and work commitments and the hostile organisational climate experienced by women (Bagilhole, 1993; Caplan, 1995; Lindholm, 2004; Morley, 2000, 2001; Saunderson, 2002; Schaupp, 1995; West & Lyon, 1995; Wilson, 2003). Yet within this environment some women academics have been noticeably more successful than others. It is this distinction that provided the context for the current study.

This study focused on the career success of women academics employed in public universities in South Africa. Universities differ from profit-oriented organisations in terms of their missions and strategic objectives. Public universities can only be understood within a broader understanding of the

socio-historical context in which they are located. Poole and Bornholt (1998) went further and suggested that the structure and history of higher education in different countries provided important contextual elements for the career development of academics. This chapter outlines the context of this study by describing briefly, the current challenges facing the sector in South Africa, the nature of academic work and the position of women in academic institutions.

## **THE SOUTH AFRICAN HIGHER EDUCATION LANDSCAPE**

South Africa is a country undergoing significant transformation in an attempt to redress social, economic and legislative imbalances inherited from the *apartheid* era (Shackleton, Simonis & Riordan, 2003). Universities in particular, have been undergoing a period of sweeping change. In addition to the current pressures on higher education institutions all over the world to become more market-driven and managerial in their approach, South African higher education institutions have recently undergone complete structural and cultural changes.

Three inter-related factors have dominated higher education (HE) in South Africa lately:

- the pressure on institutions to become more market-driven and managerial in their *modus operandi*
- the recent restructuring of the higher education landscape
- the need to address racial inequalities from the *apartheid* years (Shackleton et al., 2003).

### **The new “managerialism”**

The traditional belief that universities were the primary repositories of knowledge in a society is currently under threat. Increasingly, publicly-funded institutions of higher learning all over the world are being required to justify their existence and in particular, their expenditure. Terms such as “corporate colonisation” and the “new managerialism” are used somewhat disparagingly to describe the “storming, capturing and occupation of the traditional hallowed corridors and ivory towers of academia by the unfettered forces of

marketisation and corporatism" (Saunderson, 2002, p. 380). South African higher education institutions are no different. Saunderson explained that the benefits of new managerialism were advocated to be enhanced levels of economy, efficiency, and effectiveness but that the values underpinning this approach were fundamentally incongruent with the values of social justice with which higher education institutions were supposed to be concerned. She went on to say that the new managerialism had effectively "handcuffed equal opportunities in the academy" (Saunderson, p. 381). The impact of this corporate approach on the careers of women academics is addressed later in this chapter. Meanwhile, the assertion about managerialism limiting opportunities is particularly relevant in South Africa where, due to inherited inequities, higher education institutions are expected to fulfill both a redistributive social function as well as play an economic role in training the next generation of professionals.

Compared with universities in other parts of Africa such as Nigeria, South African universities operate with considerable autonomy (Prof A. Obejide, personal communication, November, 2003). Chancellors, Rectors and Vice-Chancellors are selected by the institution not the state, but the state has required increasing accountability from the institutions (Shackleton et al., 2003). This included compiling and reporting against 3-year rolling plans and the revision of the state funding formula to ensure compliance with (racial) equity and quality requirements. Currently, state funding provides a portion of the operating funds of HE institutions that can be as low as 40 % (Shackleton et al.). Additional income is derived from tuition fees, fund-raising and research income. Even those institutions that have traditionally claimed to be research-led institutions have experienced a significant shift towards increasing their research outputs. This may have been due in part to the readmittance of South Africa into the circle of international scholars after years of politically-motivated isolation. Research output has long been regarded as the international benchmark of highly rated universities from whence the old adage, "publish or perish", is derived. A further incentive for universities to increase their research output has been the income derived from such activities (contract research, patents and state subsidies for published, peer-

reviewed research outputs). In short, research generates money, a distinctly corporate orientation.

Whichever side of the new managerialism debate one adopts the fact remains that in South Africa, significant changes within institutions have been imposed. These changes had an impact on the content of work performed by academics and the context in which work is performed. Furthermore, a strong political need still exists to "level the playing fields" by eliminating the distinctions between historically disadvantaged institutions and historically advantaged institutions caused by differentiated funding by the *apartheid* government. This has recently been pursued through forced institutional mergers and the transformation of institutions.

### **Restructuring the landscape**

In the past, South Africa had 21 public universities and 15 technikons (similar to applied or technical universities in other parts of the world). Universities traditionally employed a research focus whereas technikons enjoyed a strong teaching focus. Eleven universities and six technikons were specifically established to cater for the black<sup>1</sup> population but resources were allocated unevenly. With the advent of democracy in South Africa, it was clear that the system required complete restructuring (Shackleton et al., 2003). The Education Ministry established the National Commission on Higher Education and a new Higher Education Act was promulgated in 1997. In terms of this Act, the Council on Higher Education (CHE) was established in 1998 to provide "informed, considered, independent, and strategic advice" on Higher Education issues to the Minister of Education (Council on Higher Education, 2001, p. 77). It was also made responsible for quality assurance through its sub-committee on Higher Education Quality Control, and disseminated knowledge and information on Higher Education (Shackleton et al.). The Education Ministry embarked on a programme of extensive consultation with all stakeholders before deciding on the revised higher education landscape.

---

<sup>1</sup> Peculiar to South African reporting conventions is the use of capital letters when reference is made to race. Black = persons of black African descent whereas black = all other race groups except White, i.e. black = Black + Indian + Coloured (mixed race) persons.

In June 2006 the imposed restructuring was finally completed. The total number of publicly-funded institutions in South Africa has been reduced from 36 to 23. This now includes: 11 traditional universities that offer theoretically-oriented university degrees, six universities of technology that offer practically-oriented diplomas and degrees in technical fields, and six comprehensive universities that offer a combination of both types of qualification (South African Higher Education, 2006).

Only traditional universities were included in this study. They were chosen because they formed a specific sub-group of institutions within the higher education sector in South Africa that historically, had always enjoyed university status in the South African higher education system (albeit with vastly different resource bases). Traditional universities were research-focused institutions that will continue to compete for research recognition as well as state and international funding. If women are going to advance in such institutions in the future, then factors that might have an impact on their career success deserved investigation. This study employed strong research criteria as indicators of objective success. This is in contrast to universities of technology and comprehensive universities (as hybrid institutions) that historically, had emphasised teaching over research. Consequently many of the staff at these "newer" universities held relatively poor research track records.

Although always named universities, the traditional universities included in this study did not emerge unaffected by the dramatic restructuring of the South African Higher Education system. Most of them either lost or gained campus sites, departments or specific disciplines. However these changes were all inter-university changes (none of these sites incorporated technikons). For example, the University of Fort Hare absorbed the entire East London campus that was previously part of Rhodes University (Dr S. Fourie, personal communication, 05 September, 2006). At the University of Stellenbosch the entire dentistry department moved to the jurisdiction of the University of the Western Cape (Prof J. Botha, personal communication, 12 September, 2006). The University of Natal and the University of Durban-Westville merged to form

the University of Kwa-Zulu Natal. Prior to this merger, the Edgecombe Teachers Training College was absorbed by the University of Natal (Ms A. Jack, personal communication, 06 September, 2006). From this point on in this document, traditional universities will be referred to as universities.

The merging of institutions and the reallocation of resources in a more equitable fashion has been far more than a technical exercise. These changes have had a major impact on the working lives of staff within the institutions. Consultative approaches within institutions absorbed much time and energy as staff have been and still are, involved in many meetings to redesign their new structures, anticipate geographical relocation, appoint new councils (statutory governing boards) and generally begin to adjust to vastly different institutional cultures. Whilst much of this restructuring has engendered great resistance to change from some quarters, for others, opportunities were perceived that previously did not exist. These changes become significant when considered in the light of opportunity structures for women academics. Many of these changes have been rooted in legislation aimed at redressing inequality.

### **Redressing Inequality**

A logical question preceding a study about academic women's career success is whether it matters if women advance within the university sector. Certainly in South Africa the rhetoric suggested that it did matter and was a cause for concern by the state authorities. South Africa has had an arguably traumatic past when one considers the impact of deliberately divisive legislation and the resultant social inequities within its population. Although a democracy for the past thirteen years, the social fabric of its society still carries a residual imprint of the effect of *apartheid*. Women participants in this study were raised in a social context that physically separated people on the grounds of race and they experienced significantly differentiated access to opportunities across all aspects of their lives especially education and employment. This history has shaped all South Africans whether or not they were members of the privileged group and has had particular consequences for individual career

development. According to Makosana (1997, p. 9) who researched the positioning of Black women in South African universities: "the conjoint effects of gender, race and class set apart the experiences of Black women from those of other racial groups in South Africa".

Apart from the obvious issue of social justice, there exists a legislated imperative to redress staff equity imbalances. Central to all legislation in South Africa is the South African Constitution, Section 9 of which prohibits unfair discrimination on the basis of, amongst other factors, sex and race. This fundamental principle is integrated into other legislation, relevant elements of which include the following:

- Section 1 of the Employment Equity Act, 55 of 1998 (EEA), black people, women and people with disabilities are identified as belonging to the "designated groups".
- Section 13 of the EEA requires employers to implement affirmative action measures to ensure that suitably qualified persons from designated groups have equal employment opportunities.
- The Promotion of Equality and Prevention of Unfair Discrimination Act, 4 of 2000 states in its Preamble that its purpose is to "prevent and prohibit unfair discrimination and harassment and to promote equality..."
- The National Plan for Higher Education drawn up by the Department of Education explicitly states that: "The staff composition of higher education has not changed in line with the changes in the student composition as blacks and women remain under-represented in academic and professional positions, especially at senior levels. The Department therefore expect universities to develop employment equity plans with clear targets for rectifying race and gender inequities. The Ministry intends using planning and funding as the primary levers for ensuring that race and gender inequities are eradicated." (South Africa, 2001, Section 3.4.1.1).



In addition to legislated imperatives, various policies have created mechanisms for redressing inequities (Shackleton et al., 2003). These include:

- Required annual reporting to both the Ministry of Education and the Ministry of Labour on the numbers of women students, academics and administrative staff in each institution.
- The establishment of a Gender Equity Unit to advise the Director-General on all aspects of gender equity in the Education system.
- The National Research Foundation (NRF) that supports and promotes research and human resources development in the natural and human sciences and is a major source of funding for research in Higher Education, promotes equity in its mission statement and funding allocation processes (National Research Foundation, 2003).

All these policies bode well for improved opportunity structures for women academics, at least on paper. However, thirteen years into a democracy and women are still significantly under-represented in senior positions in higher education institutions in South Africa (refer later in this chapter for statistics). More significantly, this under-representation is common in universities in both developed and developing countries that do not share South Africa's history. Clearly, other issues affecting the career development of women academics require investigation.

## **ACADEMIC WOMEN**

Before reporting the statistical data on the position of academic women in South Africa, the nature of academic work deserves comment.

### **Academic work**

A general model of academic work is offered by Poole and Bornholt (1998) who researched the career development of academics in eight countries including: Australia, Germany, Hong Kong, Israel, Sweden, Mexico, Great

Britain and the United States of America. They characterised an academic by three main activities (research, teaching and consulting) and by the rewards of the occupation (high income and involvement in policy-making). They acknowledge that within this model variations may exist among countries but in general, men were more likely than women to assume the role of researcher and consequently more likely to enjoy the rewards of high income and involvement in policy-making. Women were more likely to be involved in teaching and other student-related activities. Specifically, they note that "the orientation to teaching or research by gender impacts directly on academic work in terms of income, hours spent in research, and access to resources and support" (Poole & Bornholt, p. 117) thus having an impact on involvement in policy-making, a traditional linear indicator of a more developed career.

Other terms were also used to describe academic work. In her research on the vocational behaviour of academics, Shaupp (1995) identified academic tasks to include research, teaching and service. In South Africa, community service and administration are often added to the teaching and research job elements. Of particular relevance to the current study, was the finding that women in academic institutions in a number of countries often carry higher teaching, administrative and pastoral care loads than men (West & Lyon, 1995). More significantly, service to the university and the community was less likely to assist career development than research activities (Bagilhole, 1993).

The identification and labelling of academic activities was the starting point in understanding academic work. It needed to be followed by an examination of the definition of each activity and it was in this arena that significant differences between institutions could be observed. The emphasis placed on each activity was usually a function of the different types of universities operating within the sector. Those relevant to this study were reported by Botha (2005) to include:

- research universities that were characterised by a focus on research excellence, relatively light teaching loads and international standards for rewarding degrees

- provincial or regional universities that focused on producing large numbers of employable graduates by emphasising teaching and
- professional schools that focused on specific professions such as law, medicine or business, were often located within other university types and were profit-driven.

At first glance it may be natural to assume that if it was true that women were drawn to teaching and men to research, then those universities with a research focus would be populated with men in policy making positions and those that emphasise teaching would similarly, be represented by women in senior positions. This overly simplistic deduction was not supported by the data that revealed in all types of academic institutions, in both developed and developing countries, women populated the lower level positions and men dominated in the upper positions (Lindholm, 2004; Poole & Bornholt, 1998; Saunderson, 2002; West & Lyon, 1995).

### **South African Statistics**

Accurate historical statistics reflecting the proportion of women employed in different categories in South African universities were difficult to analyse because different institutions used different employment categories to record staff statistics. However, Cooper and Subotzky (2001) were able to report the shift in the gender proportion of the total number of people employed in the Higher Education sector in South Africa. In 1988, 37% of this workforce (academic and support) was female; by 1998 this percentage had increased to 45% (Cooper & Subotzky, 2001). In 2005 it was 43% (Ms J. Skene, Department of Education, personal communication, 27 September 2006).

As in other countries, the South African academic staff component is predominantly male and increases with job level as evidenced by Table 1.1.

Table 1.1.

*Women academics in South Africa in 2005*

JOB LEVEL	% FEMALE
Professors	18.5
Associate Professor	29.8
Senior Lecturer	39.5
Lecturer	50.9
Junior Lecturer	56.3

Even though there has been an increase in women at senior levels in recent years, women are still significantly under-represented in senior positions, regardless of the university focus. A simple count in April 2007 revealed that despite the opportunity to redress gender imbalances afforded by the restructuring process, when the final permanent appointments had been made, the senior management of the 23 public universities included only four women Vice-Chancellors (one of whom is in an acting position) and five women Registrars. None of the women Vice-Chancellors leads any of the 11 research-based universities. Currently 21% of the Deputy Vice Chancellors and 28% of Deans are women.

In addition to the overall gender imbalance of staff at universities, South Africa has an aging academic population at the higher levels as shown in Table 1.2 (Ms J. Skene, Department of Education, personal communication, 23 May 2007).

Table 1.2:

*Number and age of senior academics in South Africa in 2005*

AGE	PROFESSOR			ASSOC. PROF		
	M	F	T	M	F	T
Under 25 years	0	0	0	1	3	4
25-34	9	8	17	48	31	79
35-44	193	63	256	274	133	407
45-54	711	200	911	415	170	585
55-59	470	65	535	185	67	252
60-65	243	33	276	16	4	20
66-69	3	0	3	3	1	4
Totals	1629	369	1998	942	409	1351

M=Male, F=Female, T=Total

With 41% of Professors and 20% of Associate Professors due to retire in less than 10 years (all those currently over the age of 55), universities would be well-advised to address their succession plans.

A key indicator of objective career success in an academic career is the classification of the individual as a rated scientist. In South Africa the National Research Foundation (NRF) employs rigorous criteria to classify scientists into one of 6 possible categories from A = leading international researcher to L = late entrant into research (see Appendix E). Table 1.3 reflects the number of women A-rated scientists in South Africa (Ms. J. Warffemius, NRF, personal communication, February 2007).

Table 1.3.

*Rated scientists in South Africa in 2005*

Number of rated scientists in South Africa	1583
Number of female rated scientists in South Africa	374
Number of female A-rated scientists in South Africa	3

Statistical data are useful but incomplete without consideration given to the actual experiences of women within universities and particularly, how these experiences shape their career development.

## **Women's work experiences**

The evidence that women academics appear to focus more time and energy on teaching than research has already been discussed in this chapter. Beyond the actual content of work performed is the context in which it is performed. A number of studies have been conducted that include exploration of the experiences of women academics (Mkabela, 1999; Morley, 2000, 2001; Saunderson, 2002; West & Lyon 1995; Wilson, 2003). These ranged from the impact of juggling family commitments with academic performance expectations to the impact of new managerialism on the identity of woman academics and the nuanced world of micropolitics.

Wilson (2003) reported on the research conducted in America that showed that women academics who chose to have children experienced high levels of stress and were more likely to derail their careers. In the highly competitive academic system in America the pressure to publish research was essentially the only route to achieving tenure. The study revealed that 77% of men who were fathers achieved tenure against 56% of women who were mothers. The difference was directly ascribed to the parenting role and a number of women in the study reported having fewer children than they would like because of their career demands. South Africa does not employ a tenure system and both male and female academics are appointed to permanent positions. However, research output is typically the primary determinant of career success.

Schaupp (1995) investigated the research output of both men and women by employing Astin's (1984) model to test vocational behaviour, specifically publishing activity. She found no support for the model (discussed in Chapter Two) that high work expectations would result in high research productivity from women. Men consistently produced more research than women. She found a direct correlation between organisational warmth (as an opportunity structure factor) and high work expectations for women. In this sense, organisational warmth included sociability, belonging and group membership. It was argued that the social isolation experienced by women academics contributed to lower research output. Schaupp acknowledged that academic

tasks were not differentiated and women academics might have reported high work expectations in all three areas of teaching, research and service, thus diffusing their energy and not excelling in any one area. Furthermore she suggested that men were socialised to prioritise research thus lending support for the contention that gender-differentiated socialisation affected work-related expectations that in turn, affected vocational behaviour.

However, there may be another side to the publication debate. In her rigorous analysis of the link between publication productivity and job level, of 3078 academic instructors in South African universities, Prozesky (2005, p. 9) found that: "gender differences in job level achievement remain substantial even after controlling for level of productivity". Furthermore she noted (p. 9):

..... results do not support the hypothesis that gender differences in publication productivity strongly affect the extent to which men and women attain higher (professorial) job levels. When publication productivity is statistically controlled, the results showed that women academics in South Africa are still at a disadvantage in terms of job level, independent of how much they publish.

Lindholm (2004) interviewed academics to find out what attracted them to academic life, how their career interests developed and what paths their careers had taken. She found that for both men and women the fundamental attractions to academic life were the same. These included the need for autonomy, independence and individual expression and the perception that an academic environment would provide challenge, excitement and freedom. She also found that influential sources on career choice were common to men and women including childhood experiences, university experiences and personal perceptions of competence. Unexpectedly, more men than women reported following unintentional paths to academia whilst women in the sample displayed more planned routes. Distinct gender differences in the results were apparent in the socio-cultural influences that shaped career paths with mid-career women recalling struggles to be taken seriously as scholars.

Job expectations were described as individual beliefs about job outcomes and according to Dean (1982) included: expectations about job content, job context and careers, all of which were actively formed by individuals prior to their entry into an organization. Given the findings about why individuals enter academic life, it was worth exploring how women academics responded to the sweeping changes currently impacting on universities, specifically the concept of new managerialism.

Earlier in this chapter, Saunderson (2002) was reported to argue that the values underpinning new managerialism were fundamentally incongruent with the values of social justice with which higher education institutions were supposed to be concerned. She continued "given women's well-documented preference and propensity towards reflexivity.....a fundamental incongruence/ anomaly is suggested between the values of academic women and the values of academic managerialism" (Saunderson, p. 380). Furthermore, she argued that new managerialism was driven by competition and emphasised results over process, long regarded the strength of academic women, albeit unrewarded. In her words: "collegiality as a process and not an outcome, is also deemed very important for academic women" (Saunderson, p. 383).

Saunderson's (2002) concern was that institutional structures and processes of academia showed a negative impact on the identity structures and processes of academic women. Her research explored the identity structure of women academics and the congruence of their personally-held values with those of new managerialism. The women she studied could be described as successful in terms of their research output, teaching quality and grant acquisition, yet she found that, in different ways, their identity states could be described as vulnerable and consequently, psychologically uncomfortable or stressed.

However, Saunderson (2002) did not suggest that all academic women had vulnerable identities or that men escaped this state. The study involved exploring how academics evaluated themselves compared with other academics and how they evaluated themselves compared with identity



contexts of their past selves (before they became academics). In summary, she found strong evidence of women with diffused identities (strong and widely dispersed conflicts in identification) and women with foreclosed identities (a rigid and defensive denial of conflicts in identification). She added: "such vulnerability appears to be linked to issues of the new management practices and performance expectations and, by implication, to issues of equal opportunities and equal treatment" (Saunderson, p. 397). She concluded by warning that unless equal opportunity policy (which included career development) was consciously and carefully assimilated into core institutional culture, the production of robust academic identities and satisfying working lives for academic women would be at risk.

### **THE PSYCHOLOGICAL CONTRACT**

Clearly three core issues: new managerialism, a restructured landscape and new legislation have imposed significant changes on the higher education sector in South Africa. Universities as places of work have been transformed. Departments have been closed down, entire schools have been absorbed into different institutions, faculties have been split or merged and individual employment contracts (containing conditions of service) have been revised. One area that has received almost no attention is the psychological contract and yet, it could be argued that this contract, critical to the success of new institutions, has changed for all academic staff in recent years. With the university environment having changed so significantly, it may be time to renegotiate the psychological contract with academic staff.

The psychological contract comprises "subjective beliefs regarding an exchange agreement between an individual and ...the employing firm..." (Rousseau, 2001, p. 511). It embodies the explicit expectations of both parties (Adamson & Doherty, 1998). The main feature of a psychological contract is that individuals believe that a common understanding exists between them and the organisation and that agreement to the contract is mutual (Rousseau). A number of factors contribute to the formation of a psychological contract including pre-employment experiences, the hiring process, occupational

preconceptions, early work experiences, information processing and so forth. Collectively these experiences contribute to the schema or mental model of conceptually related elements. Schema once formed, then guide the organisation of new information as it was received (Rousseau).

Blackmore and Sachs (2000, p. 15) reported that universities have changed dramatically: "the university many of us knew when we began our academic careers is certainly dead". According to Adamson and Doherty (1998) new organisational realities should result in renegotiated psychological contracts. They argued that when the assumptions that have dominated management thinking over a period of time changed significantly, new, precise explanations were required of what career development meant in a particular context.

Rousseau (2001) used academics as an example of how employees may view their work role in terms of a psychological contract. She suggested that professors may include teaching, researching and writing as job elements but that within these elements schemas may differ among professors. Furthermore, she believed that psychological contracts as manifestations of schemas developed over time with new employees having relatively incomplete information that they actively sought to enhance. Those with stable psychological contracts struggled to change them unless motivated by rewards. Changed psychological contracts were shaped by the volume, presentation and timing of new information as well the amount of activity required by the recipient to acquire new information (Rousseau).

According to Rousseau (2001) a mutual contract was one agreed to by both parties. Agreement between parties was only possible if individual perceptions were objectively accurate, information was shared, power to ask for terms in one's own interest was mutual and both parties had the right to reject the agreement. Access to accurate, unbiased information was critical to achieving mutual agreement. She argued that information was more accurate if parties were familiar with each other and believed that women lacked common experience with men, thus making it more difficult for them to navigate career development systems that were designed for men. Furthermore she noted

that in certain societies, power differences between employer and employee reduced the likelihood of mutual contracts being reached.

Thus the context for the present study was complex. It comprised a sector undergoing significant change imposed both by international trends in higher education and national imperatives to redress the legacy of an earlier ideology. Within the sector the careers of academic women were subject to multiple pressures that both enhanced and reduced their chances of advancement. Yet no attention has been paid to renegotiating psychological contracts particularly about career management.

University of Cape Town

## **CHAPTER TWO**

### **PSYCHOSOCIAL AND CAREER DEVELOPMENT OF ACADEMIC WOMEN**

This study was located within the field of Career Psychology, a sub-field of Organisational Psychology that includes career development. When literature in this field was reviewed it became clear that personal and career development were inextricably linked and cannot be examined in isolation from each other.

The term, career development, is a relatively recent one and has evolved since it was first coined in the 1960s when it typically referred to vocational development (Herr, 2001). Since then the focus shifted from trying to predict an individual's suitability for a position, through organisational practices, to a multi-disciplinary orientation (Adamson & Doherty, 1998). Career development now includes the "total constellation of psychological, sociological, educational, physical, economic and chance factors that combine to shape individual career behaviour over the life span" (Herr, p. 196). This definition highlights the fact that career development is a function of individual experience within a particular organisational and social context. Specifically, Schreiber (1998, p. 6) noted: "women's career development must place women's career choices in the context of current social norms and beliefs about women's capabilities and acceptable roles, and must recognize the overt and covert mechanisms that contribute to maintaining these beliefs". Furthermore, career development must be understood in terms of individual psychosocial development.

#### **PSYCHOSOCIAL DEVELOPMENT**

During both the childhood period and old age, direct links between physical and psychological functioning can be observed in human development. However, clear links during the intervening adult years are less discernible resulting in a variety of models of adult development having been offered for

consideration. Models are based on underlying assumptions about human development ranging from the belief that adult behaviour once formed, remains stable, through the contention that physical and psychological decline is inevitable, to the belief that adults continue to develop their potential throughout their lifespan. The developmental model accepts that "periods of crisis and tension are part of the developmental process, particularly if they lead to new adaptations and insights" (Louw, van Ede & Louw, 1998, p. 473).

### **Identity development**

Psychological development can be examined from a variety of angles. The focus in this context was around identity development as individuals integrate various aspects of their adult lives within a developmental model. Identity was conceptualised as "a broad biopsychosocial self-definition that encompasses the individual's self-representation in the areas of physical functioning, cognition, personality, relationships, occupation, and social roles broadly defined" (Whitbourne, Sneed & Skultety, 2002, p. 30). According to them, healthy individuals attempted to maintain positive views of themselves within these realms.

Erikson (1963) divided the life span into eight stages, each of which he characterised by the resolution of a crisis that was represented by two opposing poles. He maintained that as an individual matured, new needs arose that had to be satisfied within the boundaries placed on individuals by society (Louw et al., 1998). Each crisis had to be overcome through a synthesis of the two poles which, once resolved, led to the next development stage and crisis. The eight sequential stages starting at birth and ending in old age are depicted in Table 2.1. (Sigelman & Rider, 2006).

Table 2.1

*Erikson's life stage theory*

	I	II	III	IV	V	VI	VII	VIII
Stage crisis	Trust vs. mistrust (hope)	Autonomy vs. shame and doubt (will-power)	Initiative vs. guilt (purpose)	Industry vs. inferiority (competence)	Identity vs. confusion (reliability)	Intimacy vs. isolation (love)	Generativity vs. stagnation (care)	Integrity vs. despair (wisdom)
Age (+/-) years	0-1 years	1-3 years	3-6 years	6-12 years	12-20 years	20-40 years	40-65 years	65+ years

The two stages of this theory that were addressed in this study, early and mid-adulthood are highlighted in the table above.

According to Erikson (1963) the primary development task facing early adults is to acquire a feeling of intimacy whilst overcoming feelings of isolation. This involves finding a partner with whom to develop a common sense of identity and with whom to share the cycles of work, reproduction and relaxation (Louw et al., 1998).

In contrast, Levinson (1986, p. 3), also a developmental theorist, divided the "life course" into four distinct eras of approximately 25 years each. Each period was characterised by tasks that had to be performed that once accomplished, provided a base for the next era or "life structure" (Levinson, p. 6). His four eras were labeled pre-adulthood, early-adulthood, mid-adulthood and late adulthood. According to Levinson, the early adulthood era requires that individuals define a dream, find a mentor, develop a career and establish intimacy.

Support for the theory of increased intimacy came from a longitudinal study by Reis, Lin, Bennett and Nezelek (1993) who found that from college to adulthood (aged 30) intimacy increased, with more opposite-sex socialising and fewer same-sex, mixed-sex and group interactions.

Marcia (2002) classified the identity status of young adults into four categories. The four statuses were identity "achieved" that included those who

had gone through a crisis and constructed an identity; "moratorium" that described a person in transition; "foreclosure" that described a person who had not gone through a crisis and accepted the identity conferred on them by others and identity "diffusion" that depicted a continuing state of confusion. According to him, identity achieved subjects were able to commit to vocational and ideological choices. They were stable, could aim for realistic goals and operate autonomously (Marcia, 2002; Orlofsky, Marcia, Lesser, 1973).

Identity development has important consequences for midlife well-being (Stewart, Ostrove & Helson, 2001). They found that identity development was positively related to midlife self-esteem and life satisfaction in women. Erikson suggested that midlife well-being was achieved through resolution of the generativity versus stagnation crisis. Therefore the link between generativity, identity development and well-being deserved exploration.

Generativity is a wide concept that includes productivity, creativity and the passing on of culture. It manifests in the care of others and things. Usually this involves the raising of one's own children but also includes the production of meaningful work and ensuring the sustainability of organisations or cultural products. According to Erikson (1963), synthesis along this continuum was necessary in order to avoid a sense of stagnation.

Slater (2003) suggested adding seven consecutive psychosocial conflicts to Erikson's (1963) chart of development in order to expand the description of the central crisis of generativity versus stagnation. They were inclusivity versus exclusivity; pride versus embarrassment; responsibility versus ambivalence; career productivity versus inadequacy; parenthood versus self-absorption; being needed versus alienation and honesty versus denial. Each conflict was connected to one of Erikson's other stages of development and the description of each conflict offered understanding around how the resolution of earlier developmental crises had an impact on the generativity versus stagnation challenge. The terminology offered by these theorists described the psychological adjustments that individual's had to make as they developed.

## **Identity resolution amongst women**

Theorists such as Erikson (1963) and Levinson (1978) conducted much of their research among men. Women in the early adult period were considered to shape their identities around their roles as wife and mother. However, Dyk and Adams (1990) reported that current cohorts of early adult women follow one of three paths to identity resolution. Some follow the traditional sex-role expectations and satisfy intimacy issues before identity thus they marry first, start a family and then are clear about their identity as wife and mother. Others with a feminine gender-role orientation address identity and intimacy issues simultaneously and a third cohort with a more masculine gender-role orientation address identity issues before intimacy issues and forge a career before settling into permanent relationships. Sigelman and Rider (2006) suggested that sex differences to the resolution of intimacy and identity issues are likely to diminish as more women postpone marriage in order to pursue careers.

Psychological adjustments suggest the presence of an identity issue at each stage. Josselson (1987) studied midlife women and concluded that they also conformed to Marcia's (2002; Orlofsky, Marcia, Lesser, 1973) four identity statuses (achieved, foreclosed, moratorium, diffused). She labelled women: pathfinders, searchers, guardians and drifters respectively. Although the degree of emphasis on relationships varied, she concluded that being able to maintain a sense of connectedness and affiliation with others was crucial for development to occur.

Identity reconstruction implies that new experiences are incorporated into the identity. Marcia (2002) maintained that identity is re-formulated at each developmental stage and every time a "disequilibrating" (very stressful) event occurred. He suggested that identity re-formulation was cyclical and required disintegration of the identity, followed by confusion, to allow a new structure to emerge. Therefore, a midlife crisis could be an important developmental step, necessary for identity reconstruction (Marcia).



Further research that addressed gender identity development in particular included the work of Burr (1998) who postulated that social learning theory is applicable to gender socialisation. Burr argued that gender identity developed as a result of imitation, direct re-enforcement of sex-typed activities, vicarious learning from peer and adult role models and the media. Furthermore the understanding of gender concepts and gender schema influenced assumptions about appropriate roles and occupations (Ross-Gordon, 1999). Consequently this has implications for the career development of women.

Whitbourne et al. (2002) focused on identity processing in middle adulthood. They reported three identity styles employed by individuals in identity processing. "Identity assimilation" was used to maintain a sense of self-consistency even in light of discrepant information and experiences. This helped individuals ignore uncomfortable information such as physical decline and may present as inflated self-esteem. "Identity accommodation" was a process of changing the self in response to experiences. Common among individuals with low self-esteem, accommodation was used by those highly receptive to external influences. A dynamic balance between these two styles was considered the optimal approach to successful aging. "Identity balance" was a flexible approach that allowed individuals to change in response to identity-salient discrepancies through identity accommodation. Therefore individuals who used this last style were most likely to cope with aging successfully as they possessed a sense of personal control and self-efficacy. Significant gender differences were clear as women used identity accommodation more than men did (Whitbourne et al.). Furthermore, they suggested a link between women's propensity to negative well-being (depression) over men as a function of their overuse of identity accommodation (Whitbourne et al.).

Stewart et al. (2001) conducted research into the well-being of women in middle adulthood and found that, as they expected, women felt more identity certainty, generativity, confident power and concern for aging in midlife than when they were younger. The first three variables were associated with positive well-being whereas the last variable, concern for aging, was

associated with negative well-being. According to Levinson (1978) the achievement of the "dream" formulated in early adulthood (discussed later) led to a sense of well-being in middle adulthood. Minter and Samuels (1998) reported that dream success is related to psychological health on two dimensions, psychological well-being and psychological composure. Those women who fulfilled their earlier dream were found to have the greatest psychological well-being and composure followed by those without an earlier dream. The least satisfied were those who had formulated a dream but had given up trying to achieve it. Taken together these findings (Whitbourne et al., 2002; Stewart et al.; Minter & Samuels) suggested that those women who experienced depression during midlife were those who had unfulfilled dreams and blamed themselves for not achieving them.

## **Menopause**

Menopause was examined in this study because of its frequent association in popular literature with midlife women and depression. Menopause refers to cessation of menstruation in women (as opposed to climatic, that is the transitional period in middle-age when a women's reproductive capacity ends and ovulation stops) (Louw et al., 1998). Stereotypical perceptions about women during menopause included the view that they were irritable, depressed and prone to mental breakdown, all as a consequence of feelings of loss around their fertility. However, research suggested otherwise. Notman (1979) concluded that menopause did not seem to be the central event for women at midlife. Rather, midlife stresses were caused by a combination of personal, social, biological and family variables. This view was supported by Matthews, Wing, Kuller, Meilahn, Kelsey and Caggulia (1990). Their extensive study revealed that the majority of women did not experience negative mental health consequences related to menopause.

Dan and Bernhard (1989) reported that responses to menopause were a function of cultural factors. Japanese women reported fewer physiological responses than American women, rural Mayan women experienced relief as the prospect of child-bearing was over, and Swedish women gained self-

esteem and a stronger sense of identity after menopause. Some indigenous cultures such as those in India, South Africa and North America actually elevated the status of women after menopause (Griffin, 1977 as cited in Huffman & Myers, 1999). Recent research (Lindh-Astrand, Hoffman, Hammar & Kjellgren, 2007) showed that women viewed menopause as a natural and developmental phase of life.

It was suggested by Gergen (1990) that the strong emphasis still placed on the issue of menopause among mid-life women, was as a consequence of the ongoing defining of women in terms of their reproductive functions whilst ignoring social and psychological factors that may be equally important. She argued that broader and more enriched theoretical frameworks for the study of midlife were needed (Gergen, 1990). Huffman and Myers (1999) endorsed this concern and believed that menopause should be conceptualised as the normative midlife transition that it is, by adopting an integrative model of midlife. Similarly, the emphasis on women producing children in the early life period must be interrogated as it too, defines women primarily in terms of their reproductive function.

### **CAREER STAGE DEVELOPMENT**

Career theorists typically examined stages in career development as they connected to life stages recognising that career development was an element of a complex set of life spheres. Thus traditional linear models of career development have been linked to chronological age (Schreuder & Theron, 1997). By linking career stages with life stages an implicit assumption is made that careers do not develop in isolation. Rather they are a function of the context in which the individual finds herself. These contexts may involve changes in respect of biological, psychological, social, spiritual, economic, cultural and historical factors (Schreuder & Theron). Traditional career theory divided the lifespan into distinct phases where career challenges were firmly located within a set of life challenges and tasks that required resolution.

The early career phase focused on establishing the career while simultaneously resolving the intimacy versus isolation crisis. The mid-career phase was likely to include reflection and realignment as the individual resolved the tension between generativity and stagnation. Transitioning from one phase to the other occurred at some point in the thirties for full-time employed individuals.

### **Early career stage**

Schein (1978) postulated that a young adult is expected to adjust to multiple new roles relating to work, family and community life, often simultaneously. He suggested that psychological well-being is informed by individual coping responses to multi-role adjustment (Schein).

The early career period consists of a number of new career tasks to be confronted by the individual including dealing with reality shock, adjusting to work routines, becoming effective quickly, achieving acceptance at work, accepting responsibility, developing special skills, balancing individual needs with organisational demands and deciding whether or not to stay in the organisation (Feldman, 1976; Schein, 1978; Wanous, 1980). More recent research does not dispute these challenges. In fact Evans and Heinz (1995, p. 3) argue that "the transitions of early adulthood and early careers are becoming increasingly disorderly and less predictable than in the past". They advocate that organisations should actively develop policies to support early career individuals. Adamson (1997) advanced understanding of the early career period with his three meta-level phase theory that suggested that individuals negotiate three distinct phases of development. According to him the first phase of adjustment/reality shock is followed by a period of career success/ self-affirmation which informs the third phase of re-evaluation/congruence (Adamson).

In addition to adjusting to the demands of full-time employment, early career individuals usually tried to balance family and career needs leading to the "superwoman" notion which requires that women hold down full-time employment outside of the home and work inside the home with minimal

assistance from their spouse or partner (Gordon & Whelan-Berry, 2004; Hyman & Summers, 2004; Newell, 1996; Rana, Kagan, Lewis & Rout, 1998). In their study of early, mid- and late career individuals, Gordon and Whelan-Berry defined early career women as those under the age of 35 years. They noted that the key responsibilities for these women in this period included: establishing their career goals and reputation, developing structures for childcare and managing their households and establishing a life structure to facilitate the resolution of life and career issues. They also argued that the current generation of early career women were more likely to earn comparable salaries to those of their partners/husbands than earlier generations of women in this career period.

Further support for differentiating between generations of women employees came in the form of research that suggested that current early career individuals known as the 'X' (born after 1965) and 'Y' (born after 1978) generations, held different values from their parents. Researchers posited that individuals in the current early career period at the beginning of this century seek responsibility at work, are independent, value free time over high salaries and demand immediate feedback on their performance (Glass, 2007; Martin, 2005). Other researchers disagreed and argued for greater understanding of the complexities of modern life over popular generational distinctions (Jorgenson, 2003).

Nonetheless it was clear that the primary career challenges of the early career period involved establishing a career and then providing evidence of achievement or success. Individuals who displayed talent in the early career period were called "potentials" (Dolezalek, 2007). Rossi (2006, p. 50) described potentials as "young, educated, independent, highly motivated and technologically savvy". Potentials were difficult to identify and the perception of potentials differed between organisations. However, across industries three types of drivers (individual and organisational) led to the advancement of this group of employees. These included: individual ability to leverage relationships, genuine commitment from the organisation to staff

advancement and access for individuals to structured job challenges (Dolezalek).

### **From early to mid-career**

The timing of the transition from early adulthood to midlife was not exact. In the Western experience middle adulthood was broadly accepted to encompass the adult years from age 40 to 60 (Louw, van Ede & Louw, 1998). However, caution should be exercised around the rigid use of these age limits, as individual experience requires the adoption of flexible boundaries. Exactly when midlife occurs depends largely on who is asked, when they are asked, where and in which historical era they are asked. Obviously the concept of midlife is inextricably linked to life expectancy.

During the twentieth century, life expectancy increased dramatically in developed countries. In 1900 men and women were expected to live until about 50 years of age yet by 1980, women were likely to live to age 78 and men to approximately age 70 (Hunter & Sundel, 1989). In the 21<sup>st</sup> century a woman in America who reaches age 50 without cancer or heart disease, can expect to see her ninety-second birthday and men will typically live to age 81 (Sheehy, 1995). However, in developing countries the scenario is distinctly different. Officially life expectancy in South Africa is age 50 and without HIV/AIDS interventions this is likely to decrease to age 41 by 2010 (South African Institute of Race Relations, 2003). However, these average figures do not reflect the vast differences that exist across different socio-economic groups within the total South African population. These statistics suggested that the traditional label of midlife in some contexts may in fact be old age in others. Beyond the purely quantitative understanding of midlife, is the subjective view of when midlife is experienced.

According to Lachman and James (1997), younger adults reported midlife commencing at 35 years of age, whilst older adults suggested it starts later, at 40 or even 50 years of age. They proposed that this difference of opinion was grounded in varying time perspectives across adulthood with younger adults

looking ahead, older adults turning their attention to the past and midlife containing a perspective that included the past, the present and the future (Lachman & James). Furthermore, Hunter and Sundel (1989) noted that social class, physical health and cultural issues were likely to influence perceptions of the timing of midlife. Tamir (1989) found distinct differences in the perception of when midlife occurred between blue- and white-collar workers with the former reporting midlife commencing at age 40 and the latter much later.

Merriam (1999) emphasised the importance of time as an integrative factor when studying adult development. She believed that time had three connotations in this context and identified chronological age, historical time (period in history) and social time (a culturally dependent timetable that outlines appropriate behaviour in the lifecycle), as critical to understanding development. The concept of social time was illustrated by research by Sheehy (1995). One of her most consistent findings since her earlier research in the 1970s was the dramatic disparity that people in midlife reported between their chronological age and how old they felt. This suggested that "appropriate midlife behaviour" in the 1970s was not necessarily applicable to current cohorts of midlife individuals.

Most theorists agreed that midlife was a time for re-evaluation of life choices and an opportunity to make changes if necessary (Erikson, 1963; Levinson, 1978; Schein, 1978; Sheehy 1976). As mentioned earlier, Levinson postulated that during early adulthood, individuals formulated "the dream" and it was this that was re-evaluated during middle adulthood. However, according to Kittrell (1998) the critical difference between men and women was the nature of the dream and the timing of its formulation. Men typically conceptualised their dream in occupational terms and achieved this during their twenties. Women, even career women, had vague notions of a dream in their twenties that combined marriage, children and work with the first two receiving precedence. Long-term career goals among women appeared to be formulated much later (Kittrell). This finding has significant implications for the nature of re-evaluation that reportedly takes place during midlife.

The concept of reflection and reappraisal was regarded by Bejian and Salomone (1995) as an independent stage in career development models, not a task within a specific stage. According to them this stage of reflection occurred between the early and mid-career stages. Furthermore, they suggested that this distinct stage had its own tasks including self-appraisal, reorganising personal and career goals and reorienting to present and future planning. They suggested that renewal may be a confluence of Erikson's (1963) life stage of generativity versus stagnation, Levinson's (1978) midlife transition, and Super's midlife transition period as reported by Sharf (2002).

The current study concerning academic women in South Africa employed age as an indicator of career stage. In this study the early career period included women up to the age of 35 years. Women aged 35 and older were classified as mid-career. The late career period was not addressed.

#### **Mid-career stage**

If, as traditional career theory suggested, career development was a linear process then the mid-career stage would be a time of reappraisal of the past and an appraisal of long-term career plans - an assessment of real progress measured against ambitions (Shreuder & Theron, 1997).

Erikson (1963) identified the primary life task during middle adulthood to be resolution of the generativity versus stagnation crisis. Peck (1968) felt that midlife crises needed to be articulated in order to highlight physical, psychological and social changes during adulthood that required successful adjustment. Schein (1978), Levinson (1978,1986) and Gould (1978) all noted a period of questioning that arose during midlife and resulted in a conscious process of re-evaluation by the individual.

Erikson (1963) argued that generativity manifested in caring for others, a crucial midlife activity. However, Sheehy (1976) made the point that midlife for women is not about shifting priority towards caring for others as most women had been primarily, caregivers up to this point. Rather, the midlife challenge



for women was to transcend dependency through declaration and women extended their generativity beyond the family into community issues. As Gordon and Whelan-Berry (2004, p. 262) observed: "women at midlife often seek new challenges at work and in personal interests". This suggests that career development theories developed by and for men may require revision when applied to women's experiences.

Theorists such as Shein (1978) identified specific work related tasks to be completed during middle adulthood, one of which he actually labelled "the midlife crisis" making the questionable assumption that it applies to everyone. Super (1963, 1990, as cited in Sharf, 2002) also listed developmental tasks for individuals during mid-life. Those tasks in his maintenance phase (age 45-65) included finding strategies to hold onto current positions, updating knowledge and innovating within the profession. Williams and Savickas (1990) added three more tasks to Super's model that they felt were relevant to current work life realities. They added preparing for retirement as a midlife task, questioning future direction and goals and they argued that continuing education is as much a coping mechanism in a world of rapid technological change as it is a development task. Certainly this last point was relevant in the context of the current study where, in a university, the ongoing pursuit of knowledge is a core job element.

In terms of career development the generativity versus stagnation crisis could be aligned to the concept of career advancement. In traditional career theory, advancement was evaluated by the number and rate of upward moves in a career (Schreuder & Coetzee, 2006). Individuals who had been promoted were regarded as successful (Kirchmeyer, 2002; Nabi, 1999; Turban & Doherty, 1994).

Those who were not promoted were considered to have reached a career "plateau" when there was no further opportunity for advancement (Leibowitz, Kaye & Farren, 1990). Plateauing was identified as either structural or content in nature (Bardwick, 1986 as cited in Leibowitz et al.). Structural plateauing resulted from blockage caused by organisational hierarchies or the classic

pyramid shaped organisational structures where one manager oversees the efforts of a number of employees. Content plateauing occurred when the job itself offered little further challenge (Bardwick as cited in Leibowitz et al.). Other researchers (Mathur-Helm, 2006; Large & Saunders, 1995; Ryan & Haslam, 2006; Thomas, Bierema & Landau, 2004) referred to the well-documented "glass ceiling" when they discussed the careers of women that appear to have plateaued. Simpson (2000) specifically noted that the glass ceiling did not affect younger women as much it affected mid-career women because according to her, the ceiling has moved up the organisational hierarchy in recent years. Morison, Erickson and Dychtwald (2006, p. 78) referred to "middlescence" when describing mid-career individuals who were "burned out, bottlenecked or bored". They believed that current cohorts of individuals in this situation were worse off than their predecessors because of increased longevity, delayed (and multiple) marriages and two-career families that juggle the care-giving of children and parents with demanding jobs.

Leibowitz et al. expanded the category of plateaued careers to differentiate between those individuals who were:

- productively plateaued (pro-active individuals who still derived job satisfaction from their current job)
- partially plateaued (experts who remained involved in their jobs but regarded the organisation as uninterested in them)
- pleasantly plateaued (complacent individuals who did not seek change and enjoyed their current routine)
- passively plateaued (those who were neither interested in training, nor curious, nor creative).

Nachbagauer and Riedl (2002) investigated the effect of career plateauing on performance, commitment and satisfaction of university staff. They found that:

- structural plateauing was less important than task stagnation (job content plateauing).
- staff who were work-content plateaued worked fewer hours than their colleagues.

## **Opportunity structures**

Whilst many of the issues raised in the previous section may hold true for most women, no two lives are the same and no two people have identical life or career stories. Over 20 years ago, Astin (1984) maintained that the structure of opportunity including, the economy, job requirements, the sex typing of jobs, the distribution of jobs, family structure and discrimination within career paths affected women's career choices. August and Quintero (2001) studied the role of opportunity structures in women's careers. They added organisational membership, occupational membership, work peers and the history of opportunities to the range of contextual factors that influenced women's career paths.

Astin (1984) maintained that sex-role socialisation played a significant role in shaping the career expectations of women. In her sociopsychological model of career choice and work behaviours she combined work motivation (the basic drives of survival, pleasure and contribution); sex-role socialisation (play, family, school and work); and structures of opportunity (distribution and sex typing of jobs, family, discrimination), and posited that it was the interaction of these three categories that shaped women's career expectations (Astin). Opportunity structures play a significant role in the development of women's careers as they are viewed as the primary caregivers in their families (Powell & Mainiero, 1992).

Farmer (1997) also believed that social learning theory was applicable to career choice but she offered a more optimistic view. Whilst acknowledging that prior sex role socialisation may affect a woman's view of opportunity structures, social learning theory posits that an individual acted as an important agent in their own learning. Therefore, because persons are capable of forethought and self-determination, she believed that "women still have much to say about their destinies" (Farmer, 1997, p. 9). This may be particularly relevant during midlife in South Africa where women who had limited access to career development opportunities in their early careers now

live in a society where gender equity legislation, at least on paper, encourages their advancement.

In South Africa, opportunity structures can be understood to include the legislatively sanctioned limitations of access to education, jobs and career resources for people of colour that were a feature of the *apartheid* regime prior to 1994. This research included women in the midlife period that, simply by virtue of their biological age, would have experienced *apartheid* structures during their early careers. However, since the advent of democracy in 1994 new labour legislation was promulgated in South Africa that is specifically aimed at redressing past inequities as discussed in the previous chapter. This has had the effect of providing laws and policies that together should create an opportunity structure that enhances women's career development.

A critical point about Astin's (1984) model that remains relevant today, is that individual occupational expectations change as socialisation and opportunity structures change and this modification in expectations leads to changes in career choice and work behaviour. Using a simple calculation of age and time, it would be fair to suggest that younger women (under 35) in South Africa currently in their early career period have only ever been employed under the new dispensation. Consequently their early career opportunity structures would have been very different from those experienced by women currently in midlife. In fact no two individual's career experiences have been identical.

It was beyond the scope of this study to examine every factor that has an impact on the development of women's careers. Extensive reading in the field led to successive refinements of this study from career development in general, to the development of women's careers, to an exploration of the challenges facing academic women in particular, to consideration of what differentiates the successful few from the majority in the sector. Whilst acknowledging that physical and mental health play crucial roles in career advancement, these elements were excluded from this study. However social development factors were examined because the careers of women cannot be viewed in isolation of their social context.

## **CHAPTER THREE**

### **SOCIAL RELATIONSHIPS AND ROLES OF ACADEMIC WOMEN**

The literature reviewed in this chapter focused specifically on adult social development in order to provide a developmental context within which to understand career development. Specifically the issues of interpersonal relationships and balancing roles were examined because it was argued that women defined success differently from men and adopted a more holistic approach to their lives that envisaged a balance between work and relationships (Powell & Mainiero, 1992). As they explained: "women lead very complicated lives" (Powell & Mainiero, p. 215).

#### **RELATIONSHIPS**

##### **Friendships**

Adults enjoy a far wider range of relationships than children whose relationships are usually a function of parental decision-making. Interpersonal relationships are characterised by love, friendship and intimacy, although the nature of the relationship will be determined by the parties to it, such as, partners, family, friends, work colleagues and sport partners.

Friendship, throughout the lifespan is believed to act as a source of social support, add to feelings of self-esteem and act as a buffer against stress (Antonucci & Amiyama, 1997). Gender differences appeared to play a role in adult friendships with different expectations between men and women informing the nature of same-gender friendships. Men chose friends on the basis of shared interests and women chose friends based on reciprocal trust and comfort in times of crisis (Berger, 1994 as cited in Louw et al., 1998). Research by Papalia and Olds (1995 as cited in Louw et al., 1998) revealed that middle-aged adults had fewer friends than young or old adults, largely because they spent more time with family and at work.

Certain interpersonal relationships lead to more permanent commitments such as marriage or co-habitation.

### **Family**

The term "family" in this context included adults who may or may not be formally married, their children and their own parents. The role of women as life partners and/or mothers, as well as daughters of aging parents has a significant impact on their career development. Issues pertaining to marital status, children, divorce and parents were included in this section.

### ***Marital status***

Marital status and satisfaction with that status impact on human development. Barnett and Brennan (1994) investigated the traditionally held view, that marital identity is more salient for women than men and did not find support for this idea. They reported that both (full-time employed, dual income) men and women were equally affected by marital satisfaction and both viewed their family role as more important than their work role.

According to Louw et al. (1998) a number of studies indicated that married people tended to live longer than unmarried people and generally appeared to be more psychologically healthy than those who were separated, widowed, divorced or never married. However, the presence of children within a marriage or committed relationship influenced marital satisfaction.

### ***Children***

According to Rollins (1989), the level of satisfaction with the marriage varied greatly across the lifespan with the quality of marriage declining when children entered the home and increasing when they left (typically in the middle adulthood period of their parents). He argued that married persons with children at home neglect marital roles in order to concentrate on the needs of the children and this neglect had an impact on marital satisfaction (Rollins).

Adults during the middle adult period usually had children of at least school-going age. Each stage of one's children's development presents parents with different challenges. During early adulthood these challenges included adjusting to the role of parent, acting as a socialisation agent towards the child, establishing rules and opening communication channels (Louw et al., 1998). During middle adulthood this was likely to present in issues ranging from learning to acquire more flexibility in order to allow adolescents to develop independence, to coping with young adults still living at home, to accepting the departure of children from home (Louw et al.). This last issue, commonly called "the empty nest syndrome" was popularly associated with distressed mothers during midlife.

Raup and Myers (1989) argued against this term as they maintained that "it demeans and patronises women as they enter the post parental period" and contributes to the "language of the barnyard" (Raup & Myers, p. 180). Whatever it is labelled there was increasing evidence that many men and women do not experience negative feelings about their children leaving home (Lippert, 1997; Louw et al., 1998). Sheehy (1995) reported male participants looking forward to the empty nest chapter in order to focus on their own marital relationships. The empty nest concept was located in the traditional view of families as nuclear units. This is not always the case as extended family units are common in South African society with three or more generations often living together. As Antonucci and Akiyama (1997, p. 148) confirmed, increasing numbers of adult children remain in or return to, the parental home these days creating the "boomerang phenomenon". The impact of this reversal of the empty nest on marital satisfaction remains uninvestigated.

Makosana (1997) made particular reference to the important role played by supportive family (relational) structures in the experiences of Black academic women in South Africa. She observed that during the *apartheid* years when social institutions such as schools, clinics, hospitals and service agencies were weak, the role of the family (parents, siblings, aunts, uncles) was particularly important "in providing guidance, emotional and physical support,

financial assistance, and strong social relationships" (Makosana, p. 6). Sonn and Fisher (1998) also believed that oppression experienced during *apartheid* encouraged community resilience and cohesion among black South Africans.

### ***Divorce***

Significant marital dissatisfaction may result in divorce, the incidence of which is increasing in South Africa. Reasons for this may have included increased social acceptance of divorce in Western culture and more economic opportunities for women to work thus allowing them to be less reliant on men (Trent & South, 1986; White, 1990).

The issue of divorce is relevant in this research in so far as it is often experienced as a severe crisis for individuals and results in significant disruption impacting on self-esteem, interpersonal relationships, work performance and even physical health (Kurdek, 1991). Couples were less likely to divorce during middle adulthood than early adulthood because they were more realistic about their relationships and did not regard every conflict as catastrophic (Louw et al., 1998).

In South Africa, in all population groups, divorce was more likely within the first nine years of marriage and the number of divorces steadily declined with an increase in marriage years (Statistics SA, 2004). In 2001, 56 % of both men and women aged 30-39, in South Africa, were married or living as husband and wife. In the midlife group (40-59 years), close to 60 % of women and 80% of men were co-habiting (Budlender, 2002). The difference has been attributed to women marrying men older than themselves and living longer, therefore women were more likely than men to be widowed. Of all the population groups in South Africa, Black women and men were the least likely to have their partners living in the same household. Close to 23% of Black women and 20% of Black men lived apart from their partners whereas 95% of individuals in the other population groups co-habit with their partners (Statistics SA).



As Tamir (1989) pointed out, the overwhelming evidence that divorce was far more likely to occur amongst those in the early adult period than those in their middle years contradicted the popular view that middle aged men typically contemplate leaving their wives for younger women. In fact, Antonucci and Akiyama (1997) found that men were happier with their marriages in midlife than women.

Some divorced individuals remarried. However, the divorce rate for second marriages was higher than for first marriages (Louw et al., 1998). Others did not remarry and together with those who never married, were grouped into the category in this study called "without partner". A further group of individuals co-habit either prior to or instead of, marriage. However, as this phenomenon was only more recently socially acceptable, most individuals who were co-habiting still fell in the early adult age group. In South Africa, there were just over three million households headed by single women between the ages of 25 and 60 (Budlender, 2002). Whether single or not, adults during midlife often had a dualistic set of responsibilities. Apart from the nuclear familial responsibilities of partners and/or children, adulthood was frequently a time when caring for aging parents presents further challenges, usually for women.

### ***Parents***

Troll (1989) investigated the intergenerational relationships between adults and their own parents. She concluded that most adult children share common beliefs and values with their parents, keep in regular contact and visit or talk on the telephone frequently. Care-giving to aging mothers by daughters, was investigated by Hollis-Sawyer (2003). She reported that caregivers who were more "open to the eldercare experience.... are better able to achieve personal growth" (Hollis-Sawyer, p. 50). This suggested that positive experiences may be derived from care-giving to the elderly. This may be another expression of the concept of generativity postulated by Erikson (1963) who considered the primary task of middle adulthood to be that of giving back or caring for people and things. A further social change that may have occurred during middle adulthood was that of adjusting to the role of grandparent. This role too may

have required active care-giving in some situations. Caring for others also extended beyond the boundaries of family to those in the community.

## **Community**

Beyond the relationships with family and friends, adult individuals displayed generative behaviours within their communities. A study that supported this contention was conducted by Peterson and Duncan (1999). They found that midlife individuals in America regarded interest in politics and consequent donations to charity as a way to improve society and thereby manifest cultural generativity. Maas (1989) presented a schema on social development that identified contexts to facilitate social responsibility. He reported that involvement in socially responsible activities at midlife enriches the lives of both participants and beneficiaries. Specifically, he found that the capacity for attachment, curiosity, intimacy, empathy, caring, collaboration, sense of competence and reciprocity evolved for both parties.

In South Africa, the concept of community that recognises human interdependence was best described through the Nguni word "ubuntu" (Tutu, 2004). Ubuntu is a unifying world view that, translated, means "a person is a person through other persons" (Shutte, 1993, p. 46). As Tutu (2004, p. 26) explained: "ubuntu is the essence of being human. It speaks of the fact that my humanity is caught up and inextricably bound up in yours. I am human because I belong". Of particular interest to this study on career success, he said that: "according to ubuntu, it is not a great good to be successful through being aggressively competitive and succeeding at the expense of others" (Tutu, 2004, p. 27). According to Louw (1998), ubuntu can be interpreted as both a factual description and a rule of conduct or social ethic. He went on to argue that compassion, caring and goodwill towards others were not uniquely African constructs but that ubuntu provided a uniquely African rationale for relating to others in such a manner.

## **Spirituality**

One issue ignored by career theorists until recently was that of spirituality. Tisdell (1999) believed that spirituality, an elusive concept, was central to human development and needed to be understood in the context of culture. She posited that spirituality fundamentally informs our ways of knowing and being in the world and consequently our orientation to community. Furthermore she argued that the concept of spirituality was ill-defined and researchers viewed the field as "flaky" (Tisdell, p. 89).

It was clear from more recent examinations of the concept that a common understanding of spirituality in the workplace did not exist. Krishnakumar and Neck (2002) classified the definitions as belonging either to the intrinsic-origin view (from within the individual), the religious view (emanating from major world religions) or the existentialist view (search for meaning in work). However it was defined, research suggested that the encouragement of spirituality in the workplace led to benefits in the areas of creativity, honesty and trust, personal fulfillment, and commitment, all of which were believed to result in increased organisational performance (Krishnakumar & Neck).

In spite of different meanings ascribed to spirituality in the workplace, Lips-Wiersma (2002) discovered that all research participants expressed the desire to express themselves and serve others. Furthermore she found that spirituality influenced work behaviour in that individuals sought alternative employment if they did not find expression for their spirituality. Support for the link between spirituality and employee work attitudes came from a study by Milliman, Czaplewski and Ferguson (2003) who used structural equation modelling to analyse their data. The model showed relationships between spirituality and organisation commitment, intentions to quit, intrinsic work satisfaction, job involvement and organisation based self-esteem.

The meaning of and importance placed upon spirituality may be rooted in cultural distinctions. Wheeler, Ampadu and Wangari (2002) posited that consideration must be given to the role of spirituality in the development and

psychological well-being of Black individuals and suggested that spiritual rituals eased transitions throughout the life-span (Wheeler, Ampadu & Wangari). In contrast, in another study with almost all White participants, Wink and Dillon (2002) discovered that all participants, irrespective of gender, increased significantly in spirituality beginning in late middle adulthood.

## **BALANCING ROLES**

Traditional career stage development theory as discussed in the previous chapter may hold true for some women. However, Schreiber (1998) maintained that career choice and career development processes were fundamentally different for women because of the social context that defined appropriate roles for them. If, as suggested by Kittrell (1998), women incorporated a priori family commitments into their career development paths, then employment of a different model that represents a complex interaction of factors would be more useful. In fact, Tamir (1989, p. 160) stated that even career-oriented women "organize their lives according to the life-course of the family – more precisely, the age of the children." Webster (1996) believed that domestic responsibilities restricted women's ability to participate fully in the labour market.

### **Unpaid work**

Repeatedly in the literature reference was made to the fact that even in dual income family structures women bear the primary responsibility for homemaking and care-giving, that is, unpaid work. According to van Doorne-Huiskes, den Dulk and Schippers (1996), in all European countries, women spent more hours on average on household work, regardless of the number of hours they work outside of the home. This finding was consistent with those in America (Hughes & Galinsky, 1994; Phillips & Imhoff, 1997).

In South Africa employed men and women spent significantly different amounts of time on unpaid work and the ratios differed between the population groups. Unpaid work included housework, care-giving to children

and others. On average, employed White men spent 74 minutes per day devoted to these activities and employed White women 177 minutes per day (about 1:2). The ratio for employed Coloured and Indian men and women was 1:3 and for employed Black men and women it was 1:4 (83 minutes per day for men to 230 minutes for women) (Budlender, 2002). As Cook (1993, p. 227) wryly stated "men now help more around the house....exactly, help — while the major responsibility continues to rest with the women!".

### **Multiple roles**

Given that it was clear that employed women fulfilled multiple roles it was considered worth exploring what impact this had on their career development. Betz and Fitzgerald (1987) reported that having children interfered with career advancement for mothers. However, an interesting corollary arose in that they also found that maternal employment facilitated positive adolescent development for both boys and girls (Betz & Fitzgerald). A more recent study conducted in Canada amongst professional women in the early career period revealed that most participants reported negative career consequences from being married or having children (Burke, 1999).

Research by Levinson (1986) on women's social development led him to observe that, unlike men who usually establish their careers by age 30, this often only occurs for women during their middle years. As Cook (1993) noted, the concept that "making it" occupationally required single-minded commitment and assumed that someone else is taking care of the children. Bardwick (1980, as cited in Sharf, 2002) found that because of women's dual commitments to family and work many during midlife did not conform to the suggested tasks of Super (1963, 1990, as cited in Sharf, 2002) and instead of holding onto their careers, they were growing significantly even if they were fulfilling multiple roles. Young (1992, p. 153) who researched the careers of women educators, assigned the label "late-bloomers" to women who achieved career success after the age of 35 (whilst managing the delicate balance of multiple roles). This label raises questions of whose timetable was being employed.

Helson and Elliott (1990) explored multiple roles among privileged women and found support for the contention that the occupation of multiple roles can be psychologically healthy in that work offered independence, partners increased contentment and children satisfied generativity. Barrett (1997) added to this finding and reported in her research that employed women enjoyed better physical and mental health than non-employed women. However, this finding depended on the nature of the work performed. Hughes and Galinsky (1994) revealed that employed women with less decision-making authority, less skill discretion and less supportive supervision than men, reported low job enrichment.

Vandewater and Stewart (1997) explored career commitment amongst midlife women who had assumed traditional roles (wife and mother) after college. Many had stayed home with their young children and assumed high level careers as they grew older. These women reported entering their late forties with feelings of self-confidence, assertiveness, self-sufficiency and resourcefulness. Furthermore, they related well to others, functioned well intellectually and experienced a sense of having attained personal goals (Vandewater & Stewart). This supported a finding by Tipping (1997) that women, unlike men, consciously planned caretaking into their career paths. This planned behaviour deserved exploration around role salience.

Role salience referred to varying combinations of the qualities of role commitment (emotional attachment), participation (time and energy expended) and knowledge (gained through direct or vicarious experience) (Cook, 1994). The assumption of multiple roles, all demanding salience was likely to result in role conflict. Home-career conflict was described by Farmer (1997) as a psychological state resulting from beliefs about the incompatibility of work and family roles. This was different, in her view, from role overload or time-based conflict. Women typically resolved this conflict through modification of their work role in order to accommodate home-role demands as this accommodation corresponded to traditional expectations of gender roles (Cook).

In contrast to the traditional view that work and family commitments conflict, more recent research recognised the reality that most women were balancing home and work demands successfully. Terms such as "positive spillover", "facilitation" and "resource enrichment" were used by researchers who reported positive interactions between the role requirements of work and family (Grzywacz & Bass, 2003; Kirchmeyer, 1992, 1993; Ruderman, Ohlott, Panzer & King, 2002). In their theory of work-family enrichment Greenhaus and Powell (2006) identified five types of resources that were transferable from one context to the other and therefore enriched the other role. These included skills and perspectives (interpersonal, coping, managing diversity); psychological and physical resources (self-efficacy, optimism, self-esteem); social capital; flexibility and material resources. They suggested that resources can be transferred directly (such as learnt interpersonal skills from one context to another) or indirectly (such as increased feelings of self-worth from one context increased confidence in the other) (Greenhaus & Powell). These findings were encouraging, especially for academic women who may choose to have both a fulfilling career and family life.

## **CHAPTER FOUR**

### **CAREER VARIABLES RELEVANT TO ACADEMIC WOMEN**

The dependent variable in this study was career success. The independent variables under investigation included: work centrality, self-efficacy, motivation and career anchors. Care-giving responsibility was included as a moderating variable. A review of the literature about these career psychology variables was conducted with particular attention paid to research conducted among academic women.

#### **CAREER SUCCESS**

##### **Definition**

Career success was defined as "the positive psychological or work-related outcomes or achievements one has accumulated as a result of one's work experiences" (Judge, Cable, Boudreau & Bretz, 1995, p. 486). Career success was described as having both objective and subjective components (Callanan, 2003). Objective success was typically measured by observable career accomplishments such as salary, number of promotions achieved and position in an organization (Kirchmeyer, 2002; Nabi, 1999; Turban & Doherty, 1994).

Subjective success however, was less easy to measure because it is a personal appraisal of how successful an individual feels. It is a function of the individual's perception of job satisfaction and career progress (Callanan, 2003). Sturges (1999) investigated career success criteria amongst managers. According to her, subjective success included: achieving a high level of competence; obtaining a sense of personal achievement from work; receiving recognition for work performed; exercising influence at work; enjoying work; acting with integrity; and successfully balancing home and work life (Sturges).



Prior research into career success was classified broadly into two classes of variables: individual and structural.

### ***Individual approach***

Research that adopted the individual approach revealed links between demographic variables and career success. Specifically, Judge et al. (1995) identified objectively successful executives as married, middle-aged, white males whose wives did not work outside of the home.

Lau and Shaffer (1999) argued that individual personality characteristics influenced career success. They believed that individuals actively learnt and modified their behaviour and suggested that locus of control, self-monitoring, self-esteem, optimism and Machiavellianism (manipulative social conduct) were likely to affect career success. Simonetti (1999) confirmed the impact of personality on career success, identifying the key personality traits for success to be maturity, enthusiasm, self-awareness and flexibility. He added that other individual skills needed for career success included: interpersonal skills, communication skills, stress management and the ability to update technical skills.

Individual variables that facilitated career success also included the career behaviours in which individuals engaged, either formally or informally. Such behaviours included skills development, seeking mentors, networking or self-promotion (Nabi, 1999; Simonetti, 1999; Turban & Dougherty, 1994).

### ***Structural approach***

The structural approach emphasised the organisational or societal structures that may limit or facilitate career success. The success of the career-advancing behaviours mentioned above may have depended on the opportunity structures available for such behaviours to be pursued.

Burke and McKeen (1994) observed the role of developmental relationships on career success. They believed that the availability of mentors and sponsors was more useful to career success than training and development programmes. However, they went on to note that women had more difficulty obtaining this support than men (Burke & McKeen). Nabi (2003) investigated the role of career-enhancing strategies such as self-nomination, networking behaviour and consultation with mentors on subjective success. He found that in an academic community peer support was a more powerful predictor of men's subjective success, whereas personal support was a more powerful predictor for women's subjective success (Nabi). A social capital theory of success presented by Seibert, Kraimer and Liden (2001) revealed the importance of social capital to career success. Social capital included two elements. Firstly, network structure, measured as the number of developmental contacts at the same and higher organisation levels as participants. Secondly, social resources, including access to information, resources and career sponsorship (Seibert et al.).

Callanan (2003) believed that organisational culture played a significant role in individual career management strategies. He suggested that, rather than an individual definition of career success, an organisational approach would define career success as the ability to remain employed for a period of time "whilst adhering to the dictates of the organisational culture and internal control systems" (Callanan, p. 127). Furthermore, he argued that individuals who managed their careers successfully in the 21<sup>st</sup> century were those who pursued careers consistent with their interests, values and life-style preferences. This suggested that if incongruence existed between individual preferences and organisational culture, then individual career success may be less achievable, especially objective success. Support for the role of individual-organisational value congruity on career success also came from a study among managers in Singapore (Aryee, Chay & Tan, 1994).

Melamed (1995) argued for a combination of individual and structural factors to be considered. Career success factors include human capital factors (levels

of education and experience) together with structural factors (delaying bearing children or working in less competitive environments) (Melamed).

### **Career success of women**

A number of studies specifically focused on the career success of women and included both objective and subjective measures of career success (Dann, 1995; Kirchmeyer, 2002; O' Neil, Bilimoria & Saatcioglu, 2003; Sturges, 1999).

Like Powell and Mainiero (1992) mentioned earlier, Sturges (1999) maintained that women defined career success differently from men. She believed that they emphasised internal criteria such as feelings of achievement and accomplishment and receiving personal recognition over material career success. Women reported broader definitions of success than men by describing career success as one part of life success that was sought. This finding was supported by Kirchmeyer (2002, p. 10) who reported that for women "rewards from family life may be integrated into a broad view of career success". Furthermore, Sturges (p. 249) found that women talked about career success as meeting a set of challenges or "not being left behind" whereas men described success as achievement in a competitive game. As Dann (1995) explained, this could be a result of women having lower expectations of objective success than men. Bagilhole (2000) also reported from her 1993 study that even ambitious women academics held low expectations of promotion.

Makosana (1997) maintained that Black women in South Africa defined success more by what had been overcome, rather than what had been achieved. She also noted that the Western view of success as individualistic achievement was rejected by Black women in favour of an African perspective that was inclusive of the collective consciousness of their families and communities. Dann (1995) observed that women did not disregard the importance of objective criteria such as income. Rather, they considered themselves as successful when compared with other women even if they were earning less money than men. Thus they employed a different set of

evaluation criteria for men and women, with lower objective success criteria for women. Expectations are discussed later in this chapter when literature on motivation and self-efficacy is reviewed.

Astin (1984) and Betz and Fitzgerald (1987) posited that women's career success was shaped by the structure of opportunities they encountered including their sex-role socialisation to place family demands ahead of, or at least equal to, career demands. However, women cannot be regarded as one homogeneous group. In addition to the various life choices they made such as whether or not to get married or bear children, women also pursued a variety of career paths.

O'Neil et al. (2004) argued that the career success of women was a function of their career type which in turn was determined by both their career pattern (ordered or emergent) and internal or external career loci (as opposed to their personal characteristics). The main contribution of their research was that women's careers cannot be described as homogeneous, nor were they random. When Dann (1995) investigated the career success of women, she found that women with uninterrupted career patterns reported more objective and subjective career success than those whose careers had been interrupted. Research by White (1995) investigated the amount of identity invested in each life role (worker, wife and mother) by successful women. She concluded that the majority of successful women displayed high work centrality; worked full-time, continuously; and fitted domestic responsibilities around their work. Thus, they were still expected to conform to a male model of career success (White).

### **Career success of academics**

Nabi (1999) investigated objective and subjective career success amongst academics in the United Kingdom. He found that the highest objective career success was reported by individuals with a high level of education, who worked in larger institutions with career progression ladders and who worked hard. Variables that specifically did not contribute to the objective success of

academics included: mental ability, ambition and work centrality. However, work centrality was positively linked to subjective career success as were well-defined career paths and the role of frequent networking.

In Australia career success amongst academics was described differently depending on how respondents viewed notions of success (Harris, Thiele & Currie, 1998). Academic success criteria were identified as research output (producing original work and attracting large research grants), hard work and productivity. Advancement within the system apparently depended on having an institutional perspective, developing a good political sense and spending many hours at work. Those who were objectively successful regarded the system as fair. Those lower down the ladder described the criteria for success in aggressive and antagonistic language. Although more women than men occupied lower job levels within the university system, the disaffected group consisted of both male and female academics (Harris, et al.).

Further research on the career success of academic women in America came from Gerdes (2003) who reported that the price of success for academic women was high stress levels. This emanated from a combination of the demanding nature of academic work, ongoing expectations of women's responsibilities outside of paid employment and insufficient time to meet all their responsibilities. However, she also reported that the women academics in her study did not report feeling powerless about their situation rather, they were proud of their success and goal achievement (Gerdes).

In their study exploring factors that contributed to the success of women academics in Malaysia, Ismail, Rasdi and Wahat (2004) labelled women who achieved professorial status by the age of 48 as "high-flyers" (Ismail et al., p. 121). This age suggested a realistic timetable for success if women are going to include child-bearing in their life plans. The factors that contributed to their success included early exposure to learning, attendance at girl's only boarding schools, positive first degree experiences, having family support, remaining health conscious and having a sense of religiosity. However above all of these

factors, respondents reported having very high work centrality as evidenced by their hard work and self-motivation (Ismail et al.).

## **WORK CENTRALITY**

### **Definition**

Work centrality was defined as a concept that was concerned with the relative importance of work in an individual's life at a particular point in time (Meaning of Work (MOW), 1987). Involvement with working was conceptually different from involvement with the present job. In the MOW study (p. 17) work centrality was defined as "a general belief about the value of working in one's life". The work centrality construct contained two main theoretical components. The first concerned a value component about working as a life role and the second concerned a decision component about preferred life spheres for one's activities (MOW).

### **Value component**

The value component of work centrality concerned identification with work and involvement with work (MOW, 1987). Identification with work as central to one's self-image was a consequence of a cognitive comparison of work activities and self-perception. Work involvement then became the affective response to this cognitive evaluation and was observed as time spent on work related activities (MOW).

In a study by Kirchmeyer (2002), women perceived longer hours to be related to their perceived (subjective) success. A study among male participants revealed a positive correlation between hours worked and objective success (Judge et al., 1995). A further study on work/life balance found that the greatest obstacle to achieving this equilibrium was reported to be the "long hours" culture (Drew & Murtagh, 2005, p. 262). Although flexible working options were available to participants in the study, both men and women reported that their careers would be seriously jeopardised if they took advantage of these options. A recent study by the Centre for Work-Life Policy

in New York (Hewlett & Luce, 2006) identified "extreme jobs" as those that included long hours (70-hour weeks) plus performance pressures. The study claimed that such jobs carried high risks for individual's health and personal relationships and were likely to lead to higher turnover as staff sought less demanding alternatives. The study also noted that few mothers can sustain these jobs, not because they did not seek the rewards, but because of the time commitment required. From an organisational perspective, if gender equity at senior levels is the goal, then this finding is cause for concern because it suggested that a disproportionate amount of time needs to be spent on work activities in order to succeed in the university environment.

It was believed that apart from the economic value of work, employment provided meaning to life in a number of ways (MOW, 1987). Shreuder and Theron (1997) suggested that work offered individuals a sense of belonging in society, was a socially sanctioned orientation (value), allowed for the execution of power, determined an individual's status in the community and for some, was a source of self-actualisation. Whilst no single meaning of work existed, it was generally agreed that work functioned as a strong source of identity for individuals.

White (1995) reported that in her study of successful women, 50% claimed that work took priority in their lives. Work centrality was reflected in their definitions of success and many felt that work shaped perceptions of their identity. Interestingly, although 35% of women in this study had identified work as central to their lives early in their careers, many others only developed high work centrality after divorce or after rejecting the role of housewife. This indicated that after separation from a partner, many women questioned their identity in relation to others (partner and children) and redefined themselves in terms of their abilities and attributes (White).

### ***Decision component***

The decision component of work centrality concerned the life spheres of an individual and the extent to which an individual chose the behaviours

associated with a particular life sphere, one of which may be work (MOW, 1987). Thus the two components were similar in that they both addressed a person's identification with working in general. But the value component related work to self and the decision component related work to other possible life spheres such as family, leisure or religion (MOW).

An international study that examined work centrality among 8661 respondents from Japan, Yugoslavia, Israel, the United States, Belgium, the Netherlands, Germany and Britain revealed that work enjoyed slightly higher centrality for men than women. Of the countries included in the study, Japan reported the highest work centrality scores and Britain, the lowest (MOW, 1987).

### **Work centrality amongst academics**

As mentioned earlier, in their study exploring factors that contributed to the success of women academics in Malaysia, Ismail et al. (2004) identified career centrality (regarded as equivalent to work centrality for the purposes of this discussion) as a critical success factor. They defined career centrality as "the extent to which an individual sees involvement in a career as central to their adult life" (Ismail et al., p. 126). The components of career centrality included: working towards career fulfilment; understanding the job requirements for an academician; hard work and determination; and having a career target (Ismail et al.). Nabi (1999) found a positive relationship between work centrality and subjective career success amongst academics in Britain.

Work as a central life interest was thoroughly explored by Dubin (1992) who reported that work was a central life interest for most professionals (unlike industrial workers and managers for whom it held considerably less interest). Dubin further stated that for work to be a central life interest, three conditions must be present: the work must be creative; it must involve personal responsibility for outcomes; and it should entail a measure of risk. He argued that collectively, these three conditions created a highly autonomous working environment that was attractive to professionals. His research did not focus specifically on women nor on academics and inclusion of academics within



the category of "professional" is contestable. However, these work conditions may well be applied to academic endeavour.

Harris et al. (1998, p. 139) reported from their Australian study that successful academics were seen as "single-minded writing machines" or "single-mindedly career-oriented people". This suggested that work was a central life interest for academics consequently work centrality was included as an independent variable in this study.

### **CARE-GIVING RESPONSIBILITIES**

The responsibility for care-giving by employed women has been addressed thoroughly in the previous chapter of this document. Webster (1996) believed that domestic responsibilities restrict women's ability to participate fully in the labour market. Farmer (1985) reported that homemaking commitment had a significant impact on career centrality. White (1995) said that low homemaking commitment was related to high career centrality. Cook (1993) noted that the concept of occupational success required single-minded commitment and assumed that someone else was taking care of the children. Wilson (2003) reported on research conducted in America that showed that women academics who had children experience high levels of stress and are more likely to derail their careers than those without children.

The extent to which academic women may view work as central to their adult life and the relationship of this variable to career success was investigated in this study. Reference was frequently made to the multiple roles that women fulfil suggesting that this juggling act precludes work from becoming a central life interest. Therefore, in this study, care-giving responsibility was included as a moderating variable on work centrality.

## **SELF EFFICACY**

### **Definition**

Self-efficacy was defined as the belief in one's ability to be successful at a task or in reaching a pre-determined goal (Bandura, 1997). Self-efficacy was first postulated by Bandura and was described as an individual's perceived capability of producing particular outcomes as a consequence of particular actions. He identified four sources of information by which self-efficacy beliefs are formed including: performance accomplishments (performing a task oneself); vicarious learning (watching someone else perform a task); verbal persuasion (being encouraged to attempt task performance) and emotional arousal such as reducing anxiety about performing a task (Bandura).

Efficacy expectations were explained to be conceptually different from outcome expectations which were beliefs that an action led to a result. In other words, outcome expectations were beliefs about the consequences of actions whereas self-efficacy expectations were beliefs about the ability to perform actions thus they may serve to encourage or inhibit commencement of a behaviour (Hackett & Betz, 1981).

The notion of expectations being met was important in this study. As noted earlier in this chapter Dann (1995) suggested that women had lower expectations of objective success than men. Lau and Shaffer (1998) directly linked self-esteem (conceptually similar to self-efficacy) with career success. Self-efficacy was conceptualised and measured not as a personality trait, but as context-specific behaviour. However, this does not mean that the generality of self-efficacy is rejected provided that new contexts or required skills can be transferred (Maddux, 1995).

### **Women and self-efficacy**

Hackett and Betz (1981) argued that women, as a result of their sex-role socialisation, lacked strong expectations of personal efficacy around career-

related behaviours and consequently did not realise their potential (Hackett & Betz). Specifically, their research revealed that women had less access to the four sources of information identified by Bandura (1997) that could enhance their self-efficacy about career related pursuits. Through greater involvement in domestic and nurturing activities they developed home-making skills that are not necessarily useful within the workplace. Thus they did not obtain information from their own performance accomplishment of work-related skills that would enhance self-efficacy. A lack of exposure to female role models across all career disciplines denied information via vicarious learning. Women exhibited higher levels of anxiety (emotional arousal) about pursuing careers. Lastly they receive less encouragement (verbal persuasion) to pursue non-traditional pursuits (Hackett & Betz). Thus women were socialised to assume traditional homemaking roles with any career aspirations remaining of secondary importance, if at all (Hackett and Betz).

Support for the use of self-efficacy theory to improve the career development of women came from a number of studies that employed the theory successfully resulting in: improved career decision-making (Sullivan & Mahalik, 2000); reduced career indecision (Taylor & Betz, 1983); and raised career self-efficacy (Betz, 1992).

Direct evidence to support the relationship between self-efficacy and the career success of South African women academics came from the finding of Maurtin-Cairncross (2005) who explicitly noted a link amongst black academic women between low self-belief and poor publishing records (an identified career success indicator). Self-efficacy has been linked to workplace performance, specifically to overcoming challenges (Bandura, 1997). It was therefore logical to include this variable in the current research and to investigate its relationship to career success. Furthermore, it was reasoned that women with high self-efficacy will be motivated to succeed.

## **MOTIVATION**

### **Definition**

According to Astin (1984) any theory of career development must accommodate motivational factors in work behaviour. Over the years, a vast amount of literature has been devoted to the development of theories of motivation. Almost as many definitions of motivation exist as theories. One definition offered by Latham and Pinder (2005, p. 486) was that "work motivation is a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior and to determine its form, direction, intensity, and duration". A considerable body of literature exists that explored the relationship between motivation and work performance (Price, 2004). A complete review of motivation theory was beyond the scope of this research. However, the elements of three established theories of motivation were reviewed as they offered possible links with the success indicators in this current study.

### **McClelland**

More than 40 years ago McClelland (1962) stated that achievement motivation led to success. Briefly, his theory of motivation stated that individual needs can be classified as needs for achievement, affiliation and power. According to McClelland (1962, 1976), all individuals experienced all three needs but not in equal proportion thus one need was always dominant. The implications for this at work were far reaching. Individuals with a high need for achievement sought recognition at work for their expertise. Those with a high need for power were authority motivated and had a strong need to exercise influence over others. Those with a high need for affiliation required harmonious working relationships and were motivated towards interpersonal interaction (McClelland).

Burke (2002) employed McClelland's theory in his discussion of the requirements for successful leaders of change. In addition to a high need for

achievement and a low need for affiliation, he argued that a need for power (that he suggests is similar to ambition) was necessary for effective leadership (Burke, 2002). This was particularly interesting in light of the present study as de la Rey (1999) explicitly recorded a number of women professors reporting reluctance to claim constructions of themselves as ambitious. She explained that some women struggle to describe themselves as ambitious or competitive because it is inconsistent with dominant constructions of femininity (de la Rey). Whilst elements of this theory offered potential links to some of the career anchors investigated in this study, the links were not deemed sufficiently robust and further theories of motivation were reviewed.

### **London**

An organising framework that facilitated the understanding of motivation in career development was provided by London (1983) and revised by London and Noe (1997). Career motivation was viewed as a multi-dimensional concept that was organised into three domains: career resilience, career insight and career identity. Career resilience was the ability to cope with changing or challenging circumstances and to adapt accordingly. Career insight was self-knowledge about one's skills and the ability to use the knowledge to further one's career. Career identity was the extent to which an individual defined him or herself by work (London & Noe). In the current study, it was reasoned that these three domains contained conceptually similar elements to some of the other independent variables under investigation such as self-efficacy, career anchors and work centrality. Therefore, a further theory was considered.

### **Vroom**

According to Vroom's (1964) expectancy theory of motivation, individuals exert high effort if they believed that a reasonable chance existed that the effort would lead to a positive organisational goal that in turn, would lead to a positive personal outcome. This personal outcome had an anticipated

satisfaction (valence) for the individual. In short, a person would be motivated to succeed if they expected that they could and if they desired success.

In a South African study on the strategic role of managers, Pietersen and Engelbrecht (2005) used expectancy theory because, as with the present study, they sought a model of motivation that incorporated both job content and job context elements. As they explained, strategic role motivation was considered a function of strategic role expectancy x strategic role valence x strategic role instrumentality (Pietersen & Engelbrecht).

Earlier in this chapter it was recorded that Dann (1995) noted the important role that expectations played in career success and she postulated that women exhibit lower expectations of objective success than men. Kreitner and Kinicki (2001) reported that the following factors influence an individual's expectancy perceptions: self-esteem, self-efficacy, previous success, support from others, access to relevant information, and sufficient material and equipment. Most of these factors were explored in the present study thus lending support for the use of expectancy theory in this study.

Strategic role opportunity was an important component of the present study. As already recorded, it has been argued that opportunity structures limit the career success of women (Burke & Mc Keen, 1994; Nabi, 2003; Siebert, Kraimer & Liden, 2001). According to Pietersen and Engelbrecht (2005, p. 51):

the effectiveness of a strategic partnership lies not only in the competence of one member of the partnership but also in the extent to which that member is given access to information and is allowed to contribute to the performance of the organisation.

It was therefore worth investigating whether women academics perceived strategic role opportunities to be available to them.

It could be argued that strategic role motivation was conceptually similar to career success because individuals who held strategic roles in organisations are those who were able to exert influence within the organisation. They may or may not have been perceived as objectively successful (that is, hold high job level or earn a high salary). However, it was likely that they would perceive themselves as subjectively successful, particularly if exerting influence within the organisation was important to them.

The challenge in this study was to identify a motivation theory that applied to the research context. The expectancy theory of Vroom (1964) was deemed most appropriate because it contained a number of relevant elements. One key element was that of strategic role valence (importance of holding a strategic role). This suggested that exerting influence over others in an organisation may be more important for some individuals than others. It was this concept of how individuals may differ in respect of important work values that led to the identification of career anchors.

## **CAREER ANCHORS**

### **Definition**

According to Schein (1996) who developed the concept of career anchors individuals during midlife became aware of patterns of reasons why their careers had been shaped in a particular way. Essentially, anchors were core career values. He believed that a career anchor had the function of organising and stabilising an individual's career by explaining their work contributions and providing measurable criteria of success. A career anchor is a self-concept that consists of self-perceived talents and abilities; basic values; and motives and needs that pertain to the career (Schein, 1996). It remained undetected until an individual is faced with a career choice when alternative courses of action are presented.

## **Description**

Originally conceived in the 1960s, Schein (1996) revisited his eight original career anchors in light of current organisational changes. He found that significant support still existed for all of them but some may be more easily accommodated in changing organisational contexts than others. The eight career anchors included:

- **Technical/functional competence (TF)** – individuals with this career anchor sought work that enabled them constantly to increase their knowledge or skill in a particular field. They enjoyed challenge and managed others effectively within their area of expertise but were not suitable for general management. Recognition of their expertise was highly valued.
- **General managerial competence (GM)** – individuals with this career anchor sought opportunities to achieve positions of power that would enable them to integrate the efforts of others. They sought promotion and increasing levels of responsibility and authority.
- **Autonomy/independence (AU)** - individuals with this career anchor sought work that allowed them to control how and when work was performed. They valued freedom even at the expense of more money or power.
- **Security/stability (SE)** - individuals with this career anchor needed both job and material security. They preferred to stay in one geographical place and wanted to be rewarded for loyalty and reliability.
- **Entrepreneurial creativity (EC)** - individuals with this career anchor considered creating their own business in order to gain power and control and express their creativity. They valued high recognition and high material rewards.
- **Service/dedication (SV) to a cause** - individuals with this career anchor sought work that improved the life of others. They valued work that was in keeping with their personal value system.
- **Pure challenge (CH)** - individuals with this career anchor enjoyed trying to solve difficult challenges. They valued variety and novelty provided it presented new and difficult problems that required resolution.



- Life style (LS) - individuals with this career anchor sought work that allowed them to balance career and personal life demands. They valued flexibility and personal growth.

Schein (1996) noted that this last career anchor, life style, had seen the greatest change since his earlier research with more executives choosing this anchor than before. He suggested that this may be a function of dual income family structures and warned that in order to retain talented staff, organisations will have to become more flexible as the boundaries between work and family for both men and women become more fluid. It was possible to relate the career anchors of Schein to the career patterns referred to by Brousseau (1990) that were discussed in a previous chapter. The linear pattern may be typical of those individuals with a general managerial competence anchor. The steady state pattern may include those with a technical/functional competence and/or a security/stability anchor. The remaining five anchors may be linked to the spiral or transitory career patterns depending on the extent to which individuals derive satisfaction from their current working environment.

### **Linking career anchors and career success**

Further research on career anchors was conducted by Feldman and Bolino (1996), who suggested a number of additions to the theory. Firstly, they believed that it was possible to have more than one career anchor and that a primary career anchor may be augmented by one or two, secondary anchors. According to them, it was the combination of career anchors that offered a better understanding of individual careers.

More significantly, Feldman and Bolino (1996) refined the eight career anchors by grouping them according to whether they were talent-based, need-based or value-based. They suggested that the three anchors of technical/functional competence, general managerial competence and entrepreneurial creativity were talent-based and focused on the type of work performed each day. Another three anchors: security/stability,

autonomy/independence and lifestyle were need-based as they focused on individuals who structured their careers around their personal lives. Finally, they grouped dedication to a cause and pure challenge together as value-based anchors because, they argued, they focus on occupational or organisational identity (Feldman & Bolino).

Furthermore, Feldman and Bolino (1996) identified four variables that moderate career anchor selection. These included the availability of alternative jobs, personal life constraints, the consistency of career anchors with occupational profiles and the consistency of career anchors with organisational cultures. Again, the issue of opportunity structures was raised and the assumption that career anchors and career patterns were exclusively functions of free will or conscious choices must be challenged.

As reported earlier in this chapter, Callanan (2003) suggested that the key to successful career management was to pursue a career consistent with one's values, interests and lifestyle preferences. He also argued that organisational culture had an impact on career success. Therefore it was reasoned that the identification of the career anchors of academic women should reveal useful data. Those who had achieved objective career success would arguably hold values consistent with university culture. They may or may not subjectively perceive themselves as successful. Those who do subjectively perceive themselves as successful, yet were not objectively successful, may be following Callanan's advice.

## RESEARCH QUESTIONS

The variables reviewed in this chapter constituted the theoretical base for this research.

This study addressed the overarching research question: Can the career success of academic women employed in South African universities be explained in terms of specific career variables? The relationships investigated in this study are depicted in Figure 4.1.

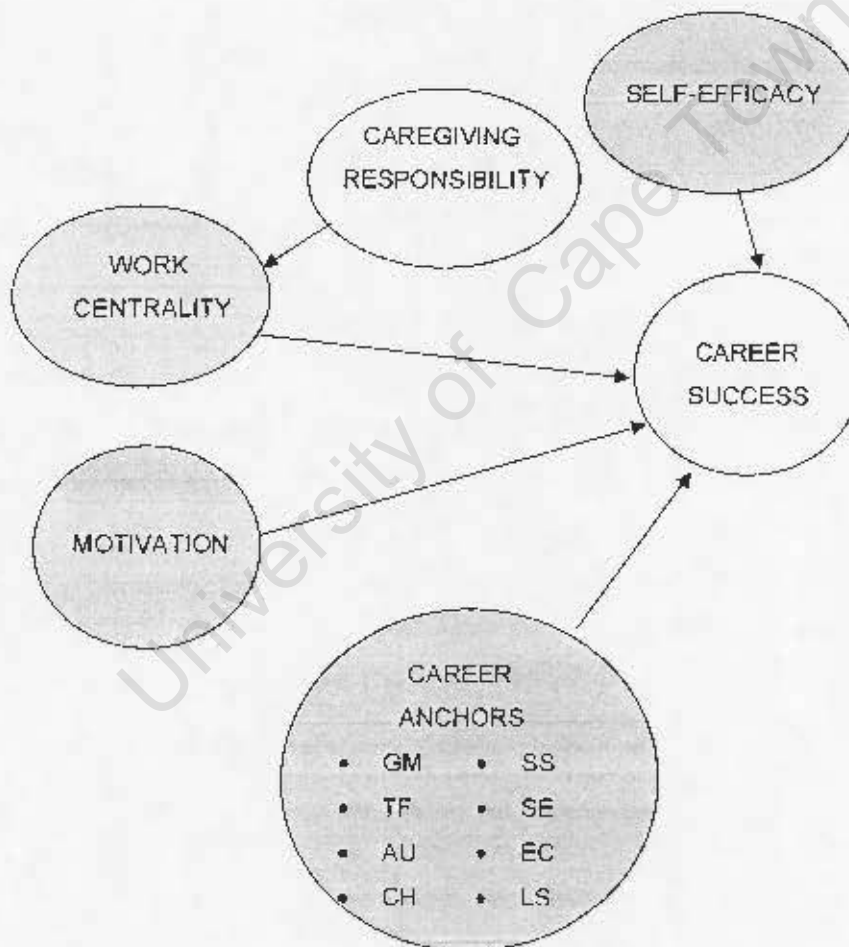


Figure 4.1:

The relationship between specific career variables and career success

## **Hypotheses**

In order to investigate the primary research question in this study, the following hypotheses were posed:

### **Career Success**

*H1. A positive relationship exists between the objective career success measure of job level and qualifications, publication output, teaching performance and community service involvement.*

*H2. A positive relationship exists between objective career success and subjective career success.*

### **Work Centrality**

*H3a. A positive relationship exists between work centrality and objective career success.*

*H3b. A positive relationship exists between work centrality and subjective career success.*

*H4. A negative relationship exists between care-giving responsibility and work centrality.*

### **Self-efficacy**

*H5a. A positive relationship exists between self-efficacy and objective career success.*

*H5b. A positive relationship exists between self-efficacy and subjective career success.*

### **Motivation**

*H6a. A positive relationship exists between strategic role expectancy and objective career success.*

*H6a. A positive relationship exists between strategic role expectancy and subjective career success.*

*H7a. A positive relationship exists between strategic role opportunity and objective career success.*

*H7b. A positive relationship exists between strategic role opportunity and subjective career success.*

*H8a. A positive relationship exists between strategic role valence and objective career success.*

*H8b. A positive relationship exists between strategic role valence and subjective career success.*

*H9a. A positive relationship exists between strategic role instrumentality and objective career success.*

*H9b. A positive relationship exists between strategic role instrumentality and subjective career success.*

#### **Career Anchors**

*H10. A positive relationship exists between technical/functional competence and career success.*

*H11. A positive relationship exists between general managerial competence and career success.*

*H12. A positive relationship exists between autonomy and career success.*

*H13. A positive relationship exists between security/stability and career success.*

*H14. A negative relationship exists between entrepreneurial creativity and career success.*

*H15. A positive relationship exists between service/dedication to a cause and career success.*

*H16. A positive relationship exists between pure challenge and career success.*

*H17. A negative relationship exists between lifestyle and career success.*

## **CHAPTER FIVE**

### **METHOD**

This study was descriptive in nature (Babbie & Mouton, 2001; Hair, Babin, Money & Samouel, 2003). Descriptive studies rely on hypotheses derived from theory (Hair et al.). The purpose of the study was to test a theoretically generated model and produce a refined version based on the results. The method followed included a pilot study followed by the main study.

#### **PILOT STUDY**

The purpose of the pilot study was to test certain assumptions and constructs in the literature via a facilitated workshop with academic women.

##### **Participants**

The workshop sample consisted of 15 academic women who were attending a residential seven-day career development intervention for women employed in universities in South Africa. For the past four years, over 80 women, selected by their respective university vice-chancellors because they were regarded as current or potential university leaders, attended this women-only programme run by a local non-profit organisation. The sample chose to attend a career development workshop during the course of the week and their informed consent to use data generated from the workshop was obtained. The workshop format was employed as a pilot intervention for the larger study.

The 15 participants in the pilot study included four Black, one Indian, one Coloured and nine White women. Due to the low representation of Indian and Coloured women in this workshop and the accepted reporting convention in South Africa, race categories of women in this sample will henceforth be referred to as black (including Black, Coloured and Indian women) and White. Four were in their thirties, seven were in their forties and four were in their fifties. Six of the participants held a PhD, eight had a Masters degree and one

had an Honours degree. Three of the participants were full Professors, one was an Associate Professor, four were Senior Lecturers, six were Lecturers and one was a Junior Lecturer. Eight South African universities were represented in the sample.

### **Research material**

Each participant was provided with a 36-page workbook containing a series of exercises, questionnaires and descriptions of constructs that she completed in writing and submitted for analysis. The exercises covered a range of issues including: involvement in work, the meaning of work, life and career stages, career patterns, career anchors, opportunity structures, career moderating variables and perceived barriers to progress. Furthermore, participants were asked to describe the content and context of their jobs and to report on their personal circumstances including health, care-giving responsibilities and their proportional contribution to household income (see Appendix A for contents of workbook). Participants also completed the Career Orientations Inventory (Schein, 1990) that reveals a preference for career anchors.

### **Procedure**

The workshop included both group discussions with recorded outcomes and individual responses to workbook exercises. Informal follow up discussions took place for clarification. The group had interacted closely for five days before the workshop and it was believed that this elevated the levels of disclosure amongst the participants.

### **Results**

#### ***Work Involvement***

All the participants reported high levels of work involvement. They regarded work as important in their lives as it satisfied both intrinsic and extrinsic needs.

### ***Context and content of work***

Both black and White women reported being disadvantaged in the past with respect to institutional promotional policies and practices. Furthermore, both black and White women reported that institutional promotion policies promoted their progress but that actual practices impeded it. Apart from the context of work, participants reported that the nature of academic work had become so diverse with so many additional elements of university service that time for research was reduced. They regarded research output as the only route to advancement and felt that the sweeping structural changes imposed by the State hindered this output. For instance, one medical professor argued for hospital patient loads to be recognised as legitimate job elements that should be included in promotion criteria.

### ***Personal Circumstances***

All except two participants in this pilot study had care-giving responsibilities for partners, children and/or aging relatives. Four women were single mothers providing the only source of income in their households. Six women reported regular involvement (weekly/daily) in community or spiritual affairs.

### ***Career Anchors***

In this pilot study the top three (of a possible eight) career anchors were identified for each participant. Using a simple count, the most noteworthy patterns included the following:

- Nine participants valued technical/functional competence (subject expertise) very highly, as would be expected from academic experts.
- Eleven participants regarded service or dedication to a cause as critical to their careers.
- Only one participant included general managerial competence (the career value that seeks power over others and is associated with promotion in a linear organisation) as important. She was the most senior in the group and was already a Dean.



- Every participant that had children included lifestyle (desire to balance work and home commitments) as one of her top three anchors.

### ***Progress barriers***

Further issues that the participants reported would impact on their careers in the future included: the lack of a PhD; being "too old" (over 50) for promotion; lack of self-confidence and their self-confessed "disease to please" that resulted in them agreeing to work assignments that did not advance their careers but did help the university.

These initial findings required empirical investigation before any conclusions about the link between specific career psychology variables and the career success of academic women could be drawn.

## **MAIN STUDY**

### **Participants**

Participants in the main study were drawn from 11 publicly funded universities in South Africa including:

- North West University
- Rhodes University
- University of Cape Town
- University of Fort Hare
- University of the Free State
- University of Kwa-Zulu Natal
- University of Limpopo
- University of Pretoria
- University of Stellenbosch
- University of the Western Cape
- University of the Witwatersrand.

According to the national Department of Education (Personal communication, Ms J. Skene, 27 Sept 2006) there were 8,816 academic staff permanently employed in these 11 universities in 2005 of which 3,595 were women (audited 2006 figures were unavailable at the time of writing). Survey distributors reported a total of 3,553 women receiving an invitation (see Appendix B for invitation) to participate in this study (42 emails were reportedly undelivered). Over a 12 - week period 426 survey responses were submitted of which 54 were removed from the database as they were incomplete. Finally, a usable convenience sample of 372 (10.47%) remained of which, 114 participants were under 35 years of age. According to Herek (1997) most behavioural and social science studies use convenience samples as they are useful for documenting that a particular characteristic or phenomenon occurs within a given group and for detecting relationships among different phenomena as in the present study.

As in the pilot study, the low number of responses from Black, Coloured and Indian participants made it necessary statistically, to collapse the responses into two groups: black and White. The final sample as depicted in Table 5.1 consisted of 372 participants of whom 19.8% were black, 78.5% were White and the race of 1.7% was unknown.

Table 5.1

*Sample description: race and responses*

University	Total academic staff	Female academic staff	Usable Responses			
			B*	W*	U*	Total
NWU	769	301	5	21	0	26
RU	306	103	0	9	0	9
UCT	829	291	9	42	2	53
UFH	230	81	0	3	0	3
UFS	620	268	0	14	0	14
UKZN	1448	569	17	45	1	63
UL	804	299	4	3	0	7
UP	1575	712	5	55	1	61
US	818	320	5	50	1	56
UWC	465	213	17	10	0	27
UWW	952	438	12	40	1	53
<b>Total</b>	<b>8816</b>	<b>3595</b>	<b>74</b>	<b>292</b>	<b>6</b>	<b>372</b>

B\*= black, W\*=White, U\*=Unknown

Across the whole sample, 30.6% of participants were below age 35 and 69.4% were aged 35 and over. The measuring instrument item on age asked for age groups to be indicated, not actual age. Therefore a mean or standard deviation for the variable: age could not be calculated. However, the sample could be described in respect of career stage (early- or mid-career) and race. Age groups (under or over 35 years old) were used in this study as an indicator of career stage.

The sample could also be described in terms of job level as depicted in Table 5.2.

Table 5.2

*Sample distribution: job level*

Job level	Sample %
DVC, Dean, Director	1
Professor	6
Associate Professor	12
Senior Lecturer	29
Lecturer	38
Junior Lecturer	14
<b>Total</b>	100

Clearly the percentages of women in senior job levels in the sample, was consistent with the percentages in the sector with very few women holding senior positions and many occupying the job level of lecturer. Furthermore as expected, White, mid-career women held more senior positions than any other group, followed by black, mid-career women. This distribution revealed that whilst racial inequities still existed amongst mid-career women, doubtless because of historical opportunities, a trend towards redress was evident with black mid-career women holding more senior positions than White early-career women. The final sample is depicted in Table 5.3. It excludes those participants whose race was not specified therefore n=366.

Table 5.3

Sample description: race, career stage and job level per university

University	Black												White												Totals	
	Early career (U35)						Mid-career (35+)						Early career (U35)						Mid-career (35+)							
	*JL	L	SL	AP	P	D	JL	L	SL	AP	P	D	JL	L	SL	AP	P	D	JL	L	SL	AP	P	D		
NWU	2							3						1	4	1					3	10	1	1		26
RU																				6	1	2			9	
UCT		5	1				1		2					6	3	2				4	5	14	6	2		51
UFH														1						2					3	
UFS														1	1					4	2	2	3	1	14	
UKZN	2	6						5	2	2				1	10	3				11	11	6	3		62	
UL		1						2	1											1	1	1			7	
UP	1	2							1			1	5	9	2	1				3	12	13	3	7	60	
US		1					1	1	2				2	8	3					1	9	13	10	4	55	
UWC	3	4					2	3	3	1	1		1	2						1	4	1	1		27	
UWW	5	3					2	1	1				4	2	2					5	8	9	6	1	3	52
Total	13	22	1	0	0	0	6	15	12	3	1	1	22	39	13	1	0	0	13	62	78	38	22	4	366	

\*JL= Junior Lecturer; L=Lecturer; SL=Senior Lecturer; AP=Associate Professor; P=Professor; D= DVC/Dean/Director

## **Measuring instrument**

The instrument contained 99 items divided into seven sections plus three demographic questions. The different sections of the instrument as discussed below pertained to the variables under investigation: career success (both objective and subjective), work centrality, motivation, career anchors, self-efficacy, care-giving responsibility and demographic variables. Sample items of the measuring instrument were included in this section to enhance understanding. The full instrument (format altered slightly to accommodate hard copy) is available in Appendix C. Unlike the instrument itself that commenced with items about work centrality, the following discussion of instrument content begins with dependent variables followed by independent variables.

### **Career Success**

Career success, which refers to the positive outcomes as a result of work experiences, was measured both objectively and subjectively in a number of previous studies (Judge et al., 1995; Kirchmeyer, 2002; Nabi, 1999; Turban & Doherty, 1994).

#### *Objective career success*

Typically, objective career success was measured using only one or a very few criteria such as self-reported salary (Nabi, 1999) or salary and number of promotions since graduation (Turban & Doherty, 1994) or in the case of Kirchmeyer (2002), salary, number of promotions since graduation and expectation of progression in the next three years.

Salary was not used as a measure of success in this study as the research sample was drawn from 11 universities in both rural and urban centres of South Africa with vastly differing resource bases. Salary therefore was not considered a reliable indicator of career success.

The present study expanded the traditional measures of objective success used in other studies to include criteria that were sector specific. For example, in academic circles it is widely accepted that in order to achieve the level of Professor within a university, an individual should have produced a substantial record of published peer-reviewed research. The same criteria would be required for an academic to achieve an official scientific rating from an agency such as the National Research Foundation (NRF) in South Africa.

Objective success (section seven of the questionnaire) in this study was measured through the inclusion of a number of criteria including:

- the highest position held by the respondent (this accommodated those who held or have held elected rotating positions such as Dean)
- highest academic qualification
- age when these (above) two achievements were obtained (because the age at which women achieved success was often different from men against whom success timetables have traditionally been evaluated)
- the number of peer-reviewed articles produced
- the value of research grants received
- NRF rating
- the number of conferences attended as an invited speaker and a
- self-report evaluation of performance in teaching, community service and university administration matters.

All the dependent variables that contained categorical data were treated as interval variables in this study as required in structural equation modelling. For example it was reasoned for the purposes of this study that the interval between an Honours and Masters degree was equivalent to the interval between a Masters degree and a PhD.

#### *Subjective career success*

Subjective success measures concerned how successful an individual feels about her career. Success in this context was compared with performance

standards that differed between individuals because the standards were personal. Subjective (perceived) success did not necessarily correlate with objective success (Collin & Young, 1986; Nabi, 1999; Poole et al., 1990).

A five-item scale employed by Judge et al. (1995) was considered and rejected because it focused on career satisfaction that was conceptually different from career success. Furthermore, the five items addressed specific progress goals and the present study focused on generic subjective career success. An 18-item measure ( $\alpha = .89$ ) employed by Nabi (1999) was not used because shorter, equally adequate measures were available. Similarly, the one-item scale employed by O'Neil et al. (2004) was considered inadequate. The six-item scale ( $\alpha = .73$ ) developed by Dann (1995) to measure subjective career success in Australia was considered potentially useful but no more so than the final four-item scale that was selected.

In the present study subjective career success (section two of the questionnaire) was measured using a four-item scale developed by Turban and Doherty (1994). The four items in the instrument asked respondents to rate on a seven-point Likert scale:

- if they were satisfied with the success they had achieved in their career
- how successful their 'significant others' felt their career had been
- how they thought their careers compared with those of their peers
- whether they thought that their careers were 'on schedule'.

The last item related to perceptions of when (chronological age) in the career cycle, success was expected. It is an important question given the reportedly differing timetables of men and women's career success. The same scale was used by Kirchmeyer (2002) in a study about gender differences in managerial careers ( $\alpha = .92$ ). The original authors, Turban and Doherty (1994), reported  $\alpha$  equal to .87. In the present study  $\alpha$  was equal to .82.

### **Work centrality**

In this study, work centrality referred to working (paid employment) in general and was not concerned with attachment to a particular job or university. Work centrality was defined as "a general belief about the value of working in one's life" (Meaning of Work [MOW], 1987, p. 17). The focus in this study was on the psychological meaning of work to individuals.

A number of measures of this variable were considered for use. They included London's (1993) 17-item multi-scale instrument ( $\alpha = .80 - .88$ ) that examined amongst other concepts, career identity, which is conceptually similar to work centrality. Also investigated was Carson and Bodleian's (1994) 12-item multi-scale career commitment instrument ( $\alpha = .79 - .85$ ) that included questions about career identity. However, it was decided to use the MOW (1987) instrument because of its brevity and previously reliable use with academic staff (Nabi, 1999).

The two items used in the current study were sourced from the MOW international research team study conducted in 1987 across eight countries. The items captured the two major theoretical components of work centrality, a value orientation toward working as a life role and a decision orientation about preferred life spheres for one's behaviour.

In the present study it was reasoned that the instrument should begin with general questions then progress to specific questions. Therefore work centrality was the first variable examined and the first two items asked participants to:

- assign a value from 1 (*one of the least important things in my life*) to 7 (*one of the most important things in my life*) to the meaning of work in their life
- distribute in order of personal importance, a total score of 100 points to various life spheres including work, family, spirituality, community and leisure activities.



The MOW (1987) instrument was used to investigate work centrality amongst academics in the north of England (Nabi, 1999) where the results revealed a positive correlation between work centrality and subjective career success but not with objective career success. The instrument was also employed in an empirical investigation into the predictors of career success (Judge et al., 1995). As Judge et al. (1995, p. 493) explained: "most of the research on this scale has been conducted cross-culturally, and, due to its ipsativity, internal consistency estimates of reliability are inappropriate", however high test-retest reliabilities are reported.

A third item included in the present study related to time spent on work-related activities. Whilst this was not considered an exhaustive measure, it was theorised that individuals for whom work centrality is high, are more likely to spend longer hours on work-related activities. Collectively, the three items were used to measure the variable known as work centrality amongst academic women.

### ***Self-efficacy***

Self-efficacy was defined as an individual's perceived capability of producing desired outcomes by performing certain actions (Bandura, 1977b). This influenced behaviour and effort exerted towards chosen activities (Bandura, 1977b). Self-efficacy as a variable has been applied to many contexts such as academic, sport, work or even social pursuits. The present study was concerned only with the self-efficacy of women academics in respect of their careers. This specific focus informed the choice of instrument employed in this research.

A number of instruments were considered for the present study but rejected for various reasons such as length, focus or validity. The 17-item General Self-efficacy Scale (GSE) developed by Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs and Rogers (1982) was probably the most widely used measure of this construct ( $\alpha = .86$ ). In the same study Sherer et al. also developed a Social Self-efficacy Scale (SSE) ( $\alpha = .71$ ). The GSE items were

phrased in general terms and the scale has been criticised for its reportedly low validity and multidimensionality. Chen, Gully and Eden (2001) developed a New General Self-efficacy Scale (NGSE) that was shorter than the GSE (eight items), was found to be one-dimensional, and offered consistently higher validity ( $\alpha = .90$ ). The GSE, SSE and NGSE were all rejected for use in this study because their focus was deemed too broad.

A number of other studies that investigated self-efficacy in various contexts resulted in a plethora of self-efficacy instruments, most of which related to self efficacy in a particular context. These included task-specific self-efficacy (Stanley & Murphy, 1997; Woodruff & Cashman, 1993); sex-role differences ( $\alpha = 0.80$ ) in self-efficacy (Choi, 2004); and cross-cultural assessment of self-efficacy (Schwarzer & Scholz, 2000).

Three career specific instruments were investigated and rejected for use as measures of self-efficacy in the present study. Firstly, Bandura's Multidimensional Scales of Perceived Self-efficacy (MSPSE) as reported by Miller, Coombs and Fuqua (1999) that contained 57 items ( $\alpha = .60 - .87$ ) was deemed more appropriate for school children as it measured a range of self efficacy contexts including team athletics and the ability to resist peer pressure. Secondly, the Career Attitude Scale (CAS) ( $\alpha = .87$ ) as developed by Bonett and Stickel (1992) was rejected because it focused on self-efficacy with respect to gender bias and occupational choice of young adults. For the same reasons, the third scale under consideration was rejected. The Career-Decision-Making Self Efficacy Scale (CDMSE) of Taylor and Betz (1983) was evaluated psychometrically by Luzzo (1996) and found to have high internal consistency ( $\alpha = .93$ ). This instrument was particularly suited to research on women. However, the CDMSE focused on early career decision-making and career choice rather than self-efficacy about career success that was the focus of the present study.

The Occupational Self-efficacy Scale (OCCSEFF) was developed by Schyns and Von Collani (2002) to assess self-efficacy related to occupational domain. They identified the need for a general scale for the occupational domain that

would be appropriate when investigating phenomena such as work values, commitment to a profession or organisational change. They reported that their research supported the construct validity of the instrument and suggested that further research should be conducted in order to investigate the link between occupational self-efficacy and other career variables. Consequently, the OCCSEFF was deemed the most appropriate for the present study (section three of the questionnaire) because this study examined variables such as career anchors (similar to values) and work centrality (related to commitment). Occupational self-efficacy was described by Schyns and Von Collani as a reliable, one-dimensional construct.

The full version of the OCCSEFF contained 19 items ( $\alpha = .92$ ). For research purposes a shortened version was developed that correlated strongly with the full version ( $r = .95$ ) and that showed a good internal consistency ( $\alpha = .88$ ) (Schyns & Von Collani, 2002). This short form containing eight items was selected for the current study ( $\alpha = .87$ ).

### ***Career Anchors***

A career anchor as identified and defined by Schein in the 1960s had the function of organising and stabilising an individual's career by explaining their work contributions and providing measurable criteria of success. A career anchor is a self-concept that consists of self-perceived talents and abilities; basic values; motives and needs that pertain to the career (Schein, 1996). There was only one instrument available, the Career Orientations Inventory, for the measurement of career anchors, although over the years several versions have been developed, each improving on the last.

In the present study the latest version (Schein, 1990) was used. Consisting of 40 questions, this longest section of the instrument was located halfway within the measuring instrument (section four of the questionnaire) where it was reasoned that response fatigue would not affect concentration. The language in some of the questions was altered slightly to accommodate the context of the current study. For example, the word "organisation" was changed to

"university" however the meaning of each question remained unaltered. Participants were asked to rate each item on a six-point Likert scale from 1 (*never true for me*) to 6 (*always true for me*). Examples of the items included the following (full scale available in Appendix C):

- I will feel successful in my career only if I have a feeling of having made a real contribution to the welfare of society.
- I dream of a career in which I can solve problems or win out in situations that are extremely challenging.
- I will feel successful in my career only if I can develop my technical or functional skills to a very high level of competence.

The 1990 version of the Career Orientations Inventory was applied successfully by Ellison and Schreuder (2000) to a South African sample of mid-career individuals. They reported the only available reliability scores for sub-scales of this instrument ( $\alpha = .59 - .78$ ).

In this study six of the eight subscales had satisfactory internal consistency ( $\alpha = .76 - .83$ ). The only two anchors that appeared to have unsatisfactory internal consistency were technical/functional competence ( $\alpha = .51$ ) and general managerial competence ( $\alpha = .60$ ). It should be noted that these subscales each contained only five items. If a low Cronbach alpha is reported (which might happen if scales have only a few items), then the inter-item correlation is examined. Ideally, inter-item correlations should not be less than .3 (Pallant, 2006).

On closer inspection of the corrected inter-item correlation of the technical/functional competence subscale, only one of the items (item 25) correlated with the others below the recommended value of .3. The wording of this item may have been misunderstood by participants as its language structure differed from other items. It was worded negatively: "I would rather leave my university than accept a rotational assignment that would take me out of my area of expertise".

According to Ellison and Schreuder (2000), reliability scores as low as .3 are acceptable when instruments were used to gather group data. However, in this study it was decided to remove item 25 from the scale. This then improved the internal consistency ( $\alpha = .59$ ). Although still low, it was accepted because the remaining four items showed a corrected item-correlation above .3. Nonetheless the results of this subscale were interpreted with caution as were the results of general managerial competence sub-scale ( $\alpha = .60$ ).

### ***Motivation***

The most suitable instrument available to test Vroom's (1964) expectancy theory in the current study was one developed in South Africa by Pietersen and Engelbrecht (2005). Specifically, they were investigating the strategic partnership role played by senior human resource managers in organisations. Strategic roles were considered to be relevant in this study because, ultimately this research was about career success which, in an academic organisation such as a university, was objectively perceived to be related to position and influence within the university. A few words were changed within the instrument in order to accommodate a university context but this did not alter the meaning of the items. For example, CEO was changed to Vice-Chancellor and the term strategic partner was changed to strategic decision-maker.

Pietersen and Engelbrecht's (2005) instrument accommodated individual, job and organisational elements. The items were constructed using Vroom's (1964) expectancy model of motivation that depicted motivation as a multiplicative sum of expectancy, valence and instrumentality (Pietersen & Engelbrecht, 2005). The response categories were changed from yes/no to a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) with item numbers 15 and 19 scored in reverse (section five of the questionnaire).

The instrument contained 21 items of which seven items measured strategic role expectancy (whether individuals expected to play a strategic role in the

university); six items measured strategic role valence (whether it was important to the individual to be regarded as a strategic decision-maker); one item measured strategic role instrumentality (whether participants thought being a strategic decision-maker led to objective success outcomes); and seven items measured strategic role opportunity (whether participants believed they were given access to strategic opportunities and information). Examples of items include (full scale available in Appendix C):

- Being a strategic decision-maker in the university determines my success as an academic.
- In my current role I have the opportunity to form networks with other faculties or university departments.
- It gives me a great deal of pride and satisfaction if I am asked to give my opinion on strategic issues in the university.

Pietersen and Engelbrecht (2005) reported alpha coefficients of .79 for expectancy, .78 for opportunity and .64 for valence. Corresponding coefficients in the present study were .78 for expectancy, .83 for opportunity and .84 for valence.

### ***Personal circumstances***

Personal circumstances were included as a moderating variable in this study (section six of the questionnaire). Five items were designed based on a study conducted by Schneer and Reitman (2002) that investigated the relationship between family structure and managerial career success. The items were intended to establish the following data from participants:

- marital status
- number of dependent individuals for whom participant was responsible
- extent of involvement in unpaid work
- primary household income source
- support for career development received from others.

### ***Demographic variables***

The online instrument was anonymous. Three demographic variables were requested in the last section including the name of university where the participant was employed, her race group and her age group. A summary of the measuring instrument sources used in this study is provided in Appendix D.

### ***Procedure***

Once the instrument was designed it was tested by six women employed in higher education who offered minor adjustments to improve its understanding. Thereafter it was disseminated among participating universities each of which adopted a different research protocol.

### ***Data collection***

All the universities were approached formally in writing, for permission to include women academics in their employ, in this study. Once permission was received from the relevant individual or body (Registrar, Vice-Chancellor, Deputy Vice Chancellor, Research Director and/or Ethics Committee) potential participants were identified. Each participating university identified the recipients of the invitation to participate in this study within their own institutions. Email contact details were obtained either from the Human Resources or Information Technology departments. Therefore all permanently employed academic women were included in the invitation to participate (see Appendix B).

Depending on university policy, all academic women in each university were either contacted directly by the researcher (Rhodes, University of KwaZulu-Natal and University of Cape Town) or indirectly via an internal individual designated by the respective universities.

Every potential participant received a personal email containing an electronic link to the instrument that was lodged on a secure server at the University of Cape Town. Although every effort was made to communicate regularly with the distributors of the electronic survey on each campus, it was beyond the control of the researcher to be certain whether any errors occurred in the identification of the sample. It was assumed that no errors occurred.

The email participants them to participate in the study by reading the information sheet provided and then completing an online, anonymous measuring instrument (Appendix C). Anonymity was guaranteed to each participant.

In accordance with the agreement reached between the researcher and the various university authorities, only one follow-up email was mailed to each potential respondent from the University of Stellenbosch and Rhodes University. Women from the remaining universities received only one invitation to participate.

Data were gathered over a period of twelve weeks. As no significant changes to the employment conditions of women academics occurred during this collection period, the time taken to gather data was deemed acceptable. In addition to completing the survey, over 40 participants emailed comments or messages of support directly to the researcher. All received a personal reply. The survey was closed on 30 October 2006 and the data were prepared for analysis.

### ***Statistical Analysis***

Two statistical tests were used mainly to analyse and describe the sample and sub-sample differences of the dependent and independent variables in the present study: the non-parametric statistic Chi-Square test and the parametric statistic one-way between-groups ANOVA by using SPSS (Statistical Package for Social Science) 12.0.



### *Descriptive statistics*

In order to establish if a relationship existed between the two variables of race and career stage, the Chi-square test for independence was applied. Since each variable (race and career stage) had two categories (race groups and career stage groups), a 2 by 2 table was constructed. It was recommended when using a 2 by 2 table, that the Yates' Correction for Continuity be reported as it "compensates for the overestimate of the chi-square value" (Pallant, 2005, p. 290). The Yates' Correction for Continuity revealed significance on a level of  $p < .001$  ( $X^2 (1, N=372) = 13.667$ ).

This result indicated that the differences in frequency between the race/career stage groups were not likely to have occurred by chance. As was clear from the percentages recorded, White women in the mid-career (age 35 and older) group were overrepresented in the sample relative to black women of the same career stage and relative to early career (under 35 years of age), White women. Early career White women were overrepresented in relation to early career black women in the sample. The two black groups (early career and mid-career) appeared not to differ significantly. This representation was expected given the historical context of education opportunities for black women in South Africa.

A one-way ANOVA was used to compare the mean scores of different groups for each variable. A crucial assumption, on which the ANOVA technique was based, is equality of variances, that is, the variability of scores for each of the groups was similar. This assumption was tested for each variable with the Levene test for equality of variances. If the Levene test revealed a non-significant result, the ANOVA F-statistic was reported. If the Levene test revealed significant results, the Welch test as one of the robust tests of equality was applied to detect significant differences between the groups. Since the present study sometimes used more than two groups, a multiple comparison was necessary. The Tukey HSD correction as a post-hoc test was used if the assumption of equal variance was fulfilled, and the Games-Howell correction was used if it was not fulfilled.

### *Developing the Model*

The links (directional and non-directional linear relationships) between the independent variables: work centrality (with care-giving as a moderating variable), self-efficacy, motivation and career anchors; and the dependent variables: objective and subjective career success, as depicted in the model in the following chapter (Figure 6.1) were analysed using path analysis tested by Structural Equation Modelling (SEM) using AMOS 4.0.

Path analysis represents a special case of SEM which is a technique used for specifying and estimating models of linear relationships among exogenous (independent) and endogenous (dependent) variables (MacCallum & Austin, 2000). Two forms of variables are distinguished in SEM: observed variables and unobserved (latent) variables. Unlike latent variables, observed variables can be measured directly. Latent variables are inferred by the relationships or correlations among measured variables in the analysis. Since the present study aimed to identify relevant directional linear relationships of measured variables, it was reasoned that the SEM technique of path analysis was the most appropriate.

The first step of the path analysis was to obtain an over-identified model. According to Bentler (1980) and MacCallum (1995), a model has to be over-identified in order for it to be meaningful. A model is over-identified if the number of parameters specified (i.e. the number of correlations and paths or arrows included) is less than the number of variances or co-variances. In contrast, a model is just-identified if the model fits the data perfectly such that the number of parameters specified equals the number of variances or co-variances (i.e. degrees of freedom = 0) (MacCallum, 1995). However, just-identified models are described as meaningless as these models will always fit the data perfectly and can never be rejected. They are not able to be disconfirmed (Bentler, 1980; MacCallum, 1995) because chi-square and probability levels cannot be calculated. Therefore the fit of the models cannot be assessed. Consequently, over-identified models are sought.

One strategy frequently used to obtain an over-identified model, is the calculation of Pearson product-moment correlations. This enables the non-directional relationships (correlations) among the exogenous and endogenous variables in the model to be specified. A Pearson product-moment correlation matrix (Table 6.4 in the following chapter) provided information about the data on which the path analysis in this study was based. It presented the pattern of bivariate relations between the variables that were measured (Hoyle & Panter, 1995). The bivariate relations between variables that were revealed as non-significant were excluded from the path analysis.

A second strategy to obtain an over-identified model was introduced by Bonaiuto, Aiello, Perugini, Bonnes and Eacolani (1999). They recommended constructing successive sub-models. This was particularly useful when the original model consisted of a high number of variables and many possible directional relations between exogenous and endogenous variables as was the case in this study. The aim of this strategy was to identify only those exogenous (independent) variables that were the best predictors (path coefficient  $>$  or  $= .15$ ) of the endogenous variables. Thereafter only the selected variables were included in the final model. This successive analysis of sub-models was based on the rationale that in most cases, once a variable (within a set of variables) does not significantly affect another variable, it can only become less important when further variables are added (except in rare situations when spurious effects occur) (Bagozzi & Baumgarten, 1994; Bonaiuto et al.). The best predictors of the sub-models were selected and included in the final model. This strategy was conservative and apart from its aim of obtaining an over-identified model, it preserved an appropriate ratio between the number of participants and the estimated parameters.

In the present study both of the strategies outlined so far were applied. Firstly, Pearson product-moment correlations were calculated which informed the pattern of non-directional (bivariate) relations between the variables to be measured. Secondly, the original (theoretical) model was divided into sub-models that were analysed separately. Since three groups of factors (work centrality, motivational factors and career anchors) were hypothesised, three

sub-models were conducted separately. The model obtained by the two strategies just described represented the final model that was used for multi-group comparisons.

#### *Multi-group comparisons*

In order to detect group differences, multi-group comparisons were conducted (Byrne, 2004). Multiple group analysis allows the researcher to compare multiple samples using the same model. Comparisons were conducted in order to detect group differences between women of different race and career stages, and different organisational groups. These comparisons tested predictions of the directional relationships (paths) between exogenous and endogenous variables for the different groups.

Multigroup comparisons were based on the theoretical assumption of path invariance across groups. According to Byrne (2004) the test for invariance in a model structure required a three-step procedure. Firstly, the validity of the hypothesised model across the groups under investigation was tested. The fit statistics of the simultaneously estimated models (i.e. unconstrained model) provided the baseline values against which the fit statistics of the specified (i.e. constrained) models were compared. Secondly, assumed paths invariance was tested across the groups under investigation by imposing cross-group equality constraints on the path estimates. The results of the second step of the multigroup comparisons informed the researcher if path invariance existed among the groups. Since the present study investigated more than two groups a third step was required to specify which of the groups differed with respect to the identified non-invariant path pattern.

The procedure outlined above referred to model fit statistics by which the null hypothesis that both restricted and unrestricted models fit the data was tested. Typically, two forms of fit statistics were distinguished: absolute fit and relative fit. The Chi-Square test of overall model fit is called the absolute fit. A significant Chi-square value indicates that the null hypothesis that the model fit the data be rejected. Chi-square tests are sensitive to sample size and non-

normality in the underlying distribution of the variables, consequently tests of relative fit are considered. In the present study three commonly reported relative fit measures (Maccallum & Austin, 2000) were selected and reported: the Normed Fit Index (NFI); the Comparative Fit Index (CFI); and the Root Mean Square Error of Approximation (RMSEA). NFI and CFI values that are between 0.90 and 1 reflect an acceptable overall fit. A RMSEA value that is less than 0.5 is considered a good fit to the data, however a RMSEA value larger than 0.5 but smaller than 1.0 is still considered acceptable (Maccallum & Austin, 2000).

University of Cape Town

## **CHAPTER SIX**

### **GENERATING A MODEL**

This is the first of three results chapters. Firstly (in Chapter Six), a theoretical model that hypothesised that certain career psychology variables had an impact on the career success of academic women was subjected to path analysis. Successive models were tested resulting in a final model containing seven of the original 14 predictors.

Secondly (in Chapter Seven), the final model was examined using successive subsets of data including: two main race categories, black and White; four demographic groups classified by race and age (as an indicator of career stage); and three organisational groups that were defined by job level and length of service. It was this organisational classification of employees that provided the greatest insight into factors that had an impact on the career success of women academics.

A number of variables contained in the hypothesised model did not contribute to the final model. These findings, presented in the third results chapter (Chapter Eight) were significant because awareness about variables excluded from a model that predicts career success, may be as useful for career development purposes, as those variables included in the model.

## HYPOTHESIED MODEL

The hypothesised model contained 14 independent variables as possible predictors of five career success indicators (outcomes). The model is depicted in Figure 6.1.

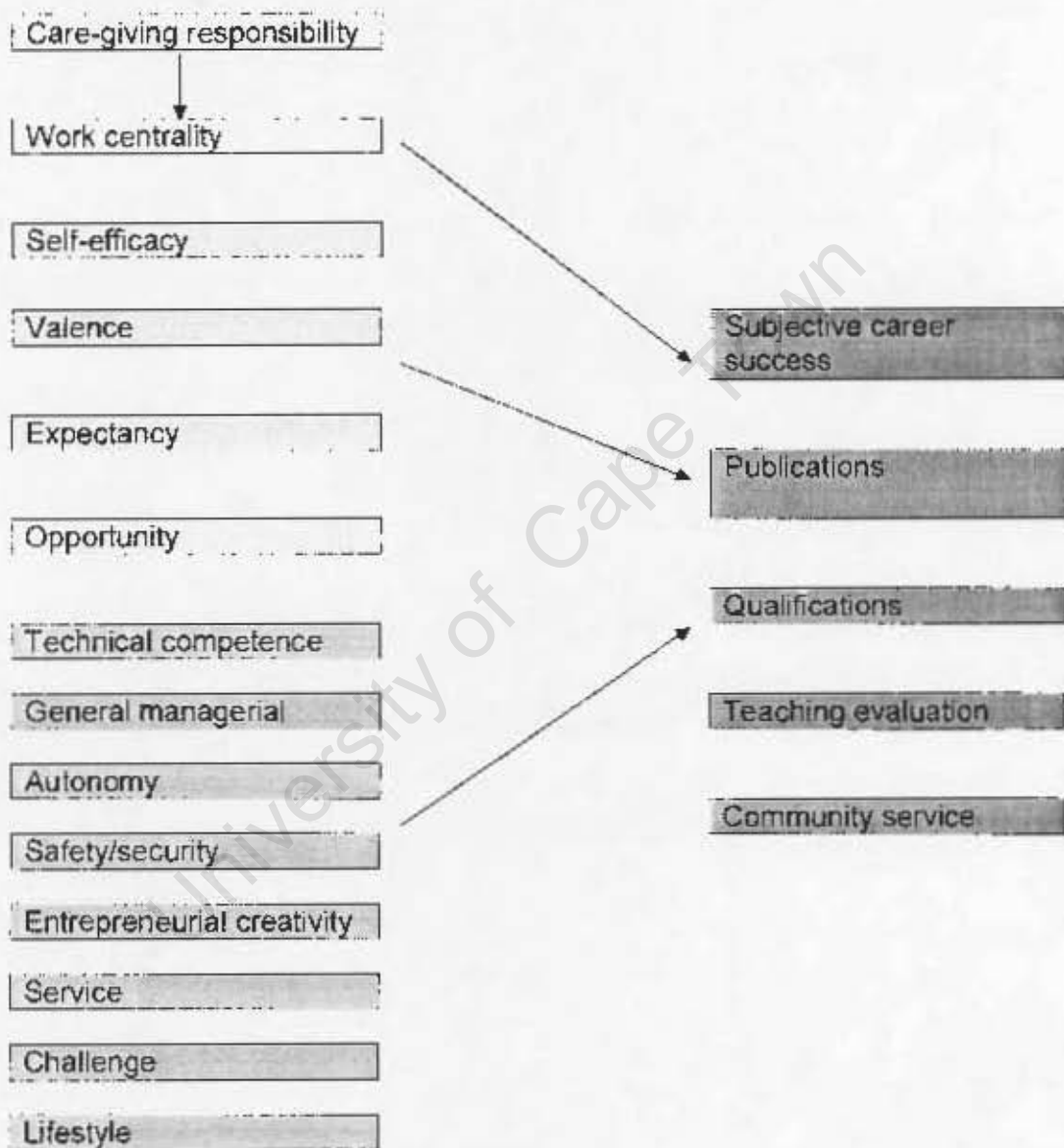


Figure 6.1:

Theoretical model depicting the hypothesised relationship between career variables and academic career success indicators.

As evidenced by the model, it was theorised that variables of academic career success including:

- positive evaluation of teaching
- involvement in community service
- qualifications
- number of publications and
- subjective career success

were predicted by (in no particular order):

- work centrality
- self-efficacy and motivational measures (expectancy, opportunity and valence)
- career anchors, (technical/functional competence, general managerial competence, autonomy, security/stability, entrepreneurial creativity, service/dedication to a cause, challenge, lifestyle).

Self efficacy was grouped with motivational factors because it was reasoned that self-efficacy influences motivation. Care-giving responsibility was included as a moderator on work centrality.

## **MODEL VARIABLES**

Raw data gathered from participants elicited an unmanageable amount of data for inclusion in a workable model. Consequently data from certain items were discarded if the information was considered to be redundant (data were replicated in more than one item) or if the data were reasoned to be unreliable (subjective reporting contradicted objective data as in the case of women reporting their NRF rating discussed later in this section).

### **Endogenous variables**

The five endogenous variables representing career success that were included in the theoretical model included one subjective career success indicator and four objective career success indicators (level of qualifications,



number of publications, teaching performance and community service involvement).

When the raw data were analysed, the raw scores of three items that examined teaching performance and two items that examined community service involvement were aggregated to provide a single score for each job element. These scores were then analysed together with the research related items: number of publications, level of qualifications and job level.

The following hypotheses in respect of career success were postulated in this study.

*H1. A positive relationship exists between the objective career success measure of job level and qualifications, publication output, teaching performance and community service involvement.*

*H2. A positive relationship exists between objective career success and subjective career success.*

As can be seen from Table 6.1, job level is the only variable that correlated positively and significantly with all other objective success indicators. It also correlated positively and significantly with subjective career success ( $r = .24$ ). Thus, support was found for H1 and H2.

Table 6.1

*Correlations of career success criteria*

	Mean	SD	R	T	P	C	Q
Job level (R)	2.61	1.14					
Teaching (T)	3.75	1.17	.184**				
Community (C)	2.75	1.27	.252**	.237**			
Publications (P)	2.11	0.97	.562**	.049	.164**		
Qualifications (Q)	2.32	0.67	.444**	.046	.051	.548**	
Subjective Career Success (SCS)	4.175	1.07	.242**	.038	.143**	.148**	.093

\*\* Correlation is significant at the 0.01 level (2-tailed)

Job level was therefore considered to be the best indicator of objective success amongst academic women, even after taking job elements beyond research (such as teaching and community service) into account. Job level was employed as a classification criterion for organisational groups (see next chapter). Therefore job level could not be included in the model as an indicator of objective career success, leaving teaching, community, qualifications, publications and subjective career success in the model.

A further item that was included in the questionnaire as an indicator of objective success was participants NRF rating, if any. The retrieved data for this item were deemed unreliable. South Africa has only three A-rated female scientists. In this study 41 participants reported that they were A-rated scientists. Consequently the entire item was removed prior to analysis. Similarly, items pertaining to the age at which participants achieved their qualifications and job level, and grants received, were also discarded.

### **Exogenous variables**

Questionnaire items that elicited data about the exogenous variables under investigation also deserve explanation.

#### ***Work centrality***

Work centrality was examined in the questionnaire via three items. Table 6.2 depicts correlations between the importance of work, the value placed on various life spheres of participants and time spent at work. Pearson product-moment correlations revealed that the importance of work (WC) was positively and significantly related to value placed on work activities ( $r = .351$ ) and community activities ( $r = .138$ ). It was however, negatively and significantly correlated to leisure activities ( $r = -.104$ ) and family activities ( $r = -.267$ ). The importance of work was positively and significantly related to time spent on work-related activities ( $r = .286$ ). The inter-correlation of work centrality items reinforced the validity of importance of work as a data source. Consequently, only one item (WC) was used for work centrality in further analysis.

Table 6.2

*Correlation between work centrality items*

	Mean	SD	WC	L	C	W	S	F	T
Importance of work (WC)	5.52	1.22	1	-.104*	.138**	.351**	-.064	-.267**	.286**
Leisure (L)	13.33	8.68	-.104*	1	-.118*	-.174**	-.169**	-.179**	-.210**
Community(C)	4.31	4.95	.138**	-.118*	1	-.107*	.158**	-.210**	.123*
Work (W)	41.03	17.22	.351**	-.174**	-.107*	1	-.411**	-.620**	.292**
Spirituality (S)	9.63	10.36	-.064	-.169**	.158**	-.411**	1	-.142**	.045
Family (F)	30.42	15.68	-.267**	-.179**	-.210**	-.620**	-.142**	1	-.267**
Time spent on work (T)	2.07	0.71	.286**	-.210**	.123*	.292**	.045	-.267**	1

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

### **Personal circumstances**

Personal circumstances were examined via five items that asked participants about their marital status, care-giving responsibility, involvement in domestic duties, contribution to household income and perceived support received from others. No data was captured for the last item due to a technical error. Table 6.3 displays the correlations between the remaining items (marital status categories were reduced to two: with partner/without partner).

Table 6.3  
*Correlation between personal circumstances items*

	Mean	SD	CR	DR	IN
Care-giving responsibility (CR)	3,87	2,26			
Domestic responsibility (DR)	2,51	1,04	.154**		
Income contribution (IN)	2,53	1,12	.205**	.355**	
With/without partner (P)	1,64	0,48	.285**	.340**	.580**

\*\* Correlation is significant at the 0.01 level (2-tailed)

Due to the positive and significant inter-correlation between all the items, only data from the one item of care-giving responsibility (CR) was included in further analysis. The other items were considered redundant.

### **Other exogenous variables**

The remaining exogenous variables in the hypothesised model were analysed using all the raw data collected per variable.

## **MODEL CONSTRUCTION**

### **Pearson product-moment correlations**

In the first step to obtain an over-identified model, the non-directional relationships among both the exogenous and endogenous variables were identified by calculating Pearson product-moment correlations. Table 6.4 contains the resultant correlation matrix.

Table 6.4  
Correlation matrix: Endogenous and exogenous model variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
End. Var.																				
1. T	3.75	1.17																		
2. C	2.75	1.27	.237**																	
3. P	2.11	0.87	.049	.164**																
4. Q	2.32	0.67	.046	.051	.548**															
5. SCS	4.175	1.07	.038	.143**	.148**	.093														
Exo. Var.																				
6. WC	5.51	1.22	.027	.122*	.136**	.053	.156**													
7. CR	3.87	2.26	.091	.071	.066	-.075	-.085	-.022												
8. SE	4.76	0.75	.119*	.163**	.023	-.076	.229**	.006	-.012											
9. TF	4.24	0.89	.068	.070	.042	.029	.043	.198**	-.021	.125*										
10. GM	2.41	0.69	.020	.149**	-.045	-.110*	-.023	.088	-.004	.117*	.254**									
11. AU	3.92	0.98	.057	.125*	.112*	.113*	.072	-.034	-.110*	.195*	.236**	.127*								
12. SS	3.41	1.02	-.011	-.155**	-.165**	-.103*	.074	.116*	.043	.215**	.215**	.187*	-.217**							
13. EC	3.02	0.98	.073	.108*	-.055	-.079	-.019	-.033	-.008	.309**	.300**	.284**	.496**	-.065						
14. SV	3.99	1.04	-.047	.068	-.215**	-.180**	-.036	.050	.065	.002	.227**	.140**	.147**	.182**	.154**					
15. CH	3.68	0.97	-.003	.149**	.086	.080	.018	.211**	-.056	.501**	.501**	.339**	.316**	-.042	.416**	.278**				
16. LS	4.29	1.07	-.020	.146**	-.144**	-.118*	-.066	-.258**	.168**	.192**	.192**	-.044	.194**	.289**	.174**	.278**	-.018			
17. EXP	3.05	0.78	.129*	.117*	.112*	.107	.285**	.097	.038	.080	.050	.131*	-.017	.095	.046	.042	.023	.041		
18. OPP	2.92	0.8	.087	.168**	.152**	.089	.237**	.101	.085	.135**	.059	.130*	-.012	.101	.038	.041	.133*	.004	.682**	
19. VAL	3.48	0.84	.195**	.217**	.066	.068	.107*	.152**	.080	.076	.196**	.299**	-.031	.060	.083	.082	.156**	.082	.207**	.217**

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

1. T= Teaching 2. C=Community service 3. P=Publications 4. Q= Qualifications 5. SCS= Subjective career success 6. WC = Work centrality  
7. CR = Care-giving responsibility 8. SE = Self-efficacy 9. TF = Technical/functional competence 10. GM= General managerial competence  
11. AU = Autonomy 12. SS = Security/stability 13. EC = Entrepreneurial creativity 14. SV = Service/dedication to a cause 15. CH = Challenge  
16. LS = Lifestyle 17. EXP =Motivation: expectancy 18. OPP= Motivation: opportunities 19. VAL = Motivation: valence

From Table 6.4, it is evident that all exogenous variables did not correlate significantly with each other nor did all endogenous variables correlate significantly with each other. Only the significant relationships as indicated in Table 6.4 were considered in the path models.

### Sub-models

Secondly, successive sub-models were constructed considering only the significant relationships identified in the previous analysis. Three sub-models were developed in this study: *work centrality*, *motivational factors* and *career anchors*.

### Work centrality

The following three hypotheses (Table 6.5) about work centrality were investigated in this study.

Table 6.5

*Hypotheses: Work centrality*

POSITIVE PREDICTORS	OUTCOMES
H3a. Work centrality	Objective career success
H3b. Work centrality	Subjective career success
NEGATIVE PREDICTORS	OUTCOMES
H4. Care-giving responsibility	Work centrality

The path analysis model for work centrality is presented in Table 6.6 and Figure 6.2

Table 6.6

Path analysis model for work centrality

Sub-Model: Work centrality						
		SCS (3%)	Publications (2%)	Qualifications (1%)	Teaching (1%)	Community (2%)
CR (-.022)	WC (0%)	.154**	.138**	.051	.029	.124*
	CR	-.062	.072	-.073	.092	.074
Overall model indices: $\chi^2 (5) = 4.270$ , $p = .511$ ; NFI = 0.999; CFI = 1.000 and RMSEA = .000 (N=372). Path coefficients are standardised direct effects-estimates (* $p < .05$ , ** $p < .01$ , *** $p < .001$ ).						
CR= Care-giving responsibility WC= Work centrality SCS= Subjective career success						

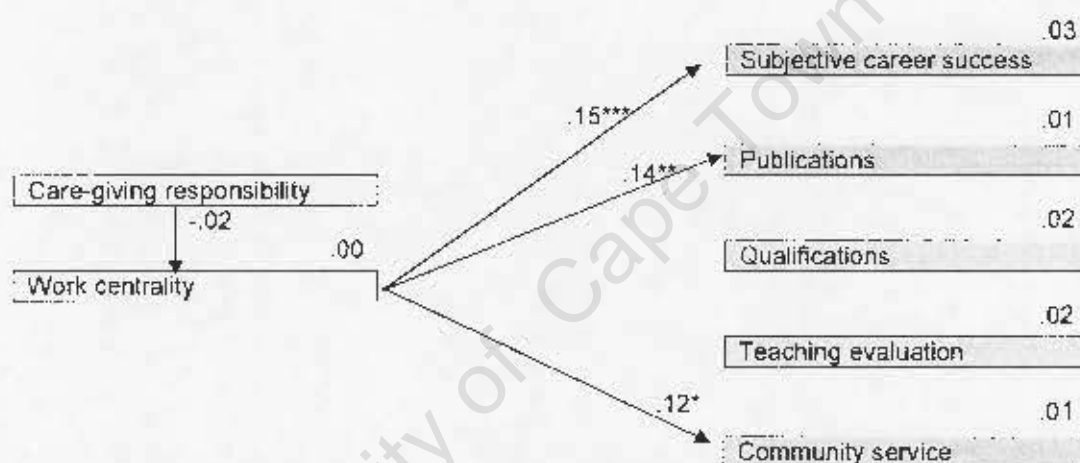
\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Figure 6.2:

Work centrality as a predictor of career success

The overall model indices indicated a good fit ( $\chi^2 (5) = 4.28$  ( $p = .51$ ), NFI=.99, CFI=1.00 and RMSEA=.00). Work centrality was a significant, positive predictor of subjective career success (.15), community service (.12) and publication output (.14). This indicated that the higher work centrality was for female academics, the more positively they felt about their careers, the more they published articles and the more they were engaged in community service.



Care-giving responsibility showed no significant impact on work centrality or on any other endogenous variable. Thus, the results supported *H3a* (work centrality positively predicts objective success), partially supported *H3b* (work centrality positively predicts subjective success) and did not support *H4* (care-giving responsibility negatively predicts work centrality).

### ***Motivational factors***

The following hypotheses (Table 6.7) were investigated in this study with respect to self-efficacy and motivation.

Table 6.7

*Hypotheses: Motivational factors*

POSITIVE PREDICTORS	OUTCOMES
<i>H5a. Self-efficacy</i>	Objective career success
<i>H5b. Self-efficacy</i>	Subjective career success
<i>H6a. Expectancy</i>	Objective career success
<i>H6b. Expectancy</i>	Subjective career success
<i>H7a. Opportunity</i>	Objective career success
<i>H7b. Opportunity</i>	Subjective career success
<i>H8a. Valence</i>	Objective career success
<i>H8b. Valence</i>	Subjective career success

The path analysis model for motivational factors is presented in Table 6.8 and Figure 6.3.



Table 6.8

Path analysis model for motivational factors

Sub-Model: Motivational Factors					
	SCS (16%)	Publications (2%)	Qualifications (3%)	Teaching (5%)	Community (8%)
Self-efficacy	.202***	.000	.096	.098	.136**
Expectations	.241***	.012	.084	.105	-.023
Opportunity	.086	.137	.029	-.036	.125
Valence	-.191***	.036	.072	.174**	.185***
Overall model indices: $\chi^2(6) = 6.586$ , $p = .361$ ; NFI = .999; CFI = 1.000 and RMSEA = .000 (N=372). Path coefficients are standardised direct effects-estimates (* $p < .05$ , ** $p < .01$ , *** $p < .001$ ).					

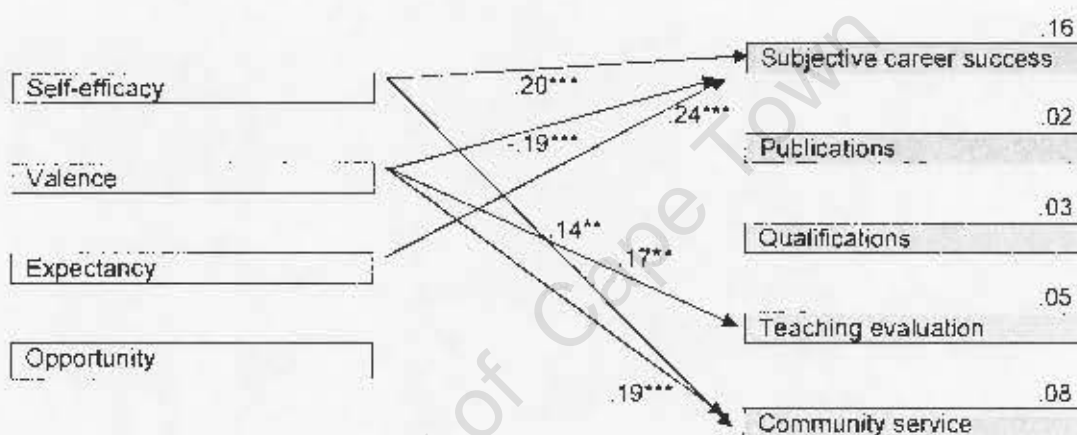
\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Figure 5.3:

Motivational factors as predictors of career success

Once again, the overall model indices indicated a good fit ( $\chi^2(6) = 6.59$  ( $p = .36$ ), NFI = .99, CFI = 1.00 and RMSEA = .00). Self-efficacy was a positive, significant predictor of subjective career success (.20) and community service (.14). Thus partial support was found for H5a (self-efficacy positively predicts objective success) whilst H5b was supported (self-efficacy positively predicts subjective success). That is, the higher female academics perceived their occupational self-efficacy, the more positively they felt about their career success and the more they were engaged in community service.

Expectancy was a positive, significant predictor of subjective career success (.24). *H6a* (expectancy positively predicts objective success) was not supported, but *H6b* was supported (expectancy positively predicts subjective success). This means that the more female academics believed they were expected to be strategic decision-makers in their universities, the more positively they perceived their careers to have been.

Valence was a positive, significant predictor of teaching ratings (.17) and community service (.19) and a negative, significant predictor of subjective career success (-.19). Thus partial support was found for *H8a* (valence positively predicts objective success) and *H8b* (valence positively predicts subjective success) was not supported. Stated differently, the more value that a female academic places on playing a strategic decision-making role in the university, the higher her teaching ratings become, the more she is involved in the community but the less successful she feels her career has been.

### ***Career anchors***

The following hypotheses (Table 6.9) were posed about career anchors.

Table 6.9

*Hypotheses: Career anchors*

POSITIVE PREDICTORS	OUTCOMES
<i>H10</i> . Technical/functional competence	Career success
<i>H11</i> . General managerial competence	Career success
<i>H12</i> . Autonomy	Career success
<i>H13</i> . Security/stability	Career success
<i>H15</i> . Service/dedication to a cause	Career success
<i>H16</i> . Pure challenge	Career success
NEGATIVE PREDICTORS	OUTCOMES
<i>H14</i> . Entrepreneurial creativity	Career success
<i>H17</i> . Lifestyle	Career success

The path model for career anchors is depicted in Table 6.10 and Figure 6.4.

Table 6.10

Path analysis model for career anchors

Sub-Model: Career Anchors					
	SCS (2%)	Publications (12%)	Qualifications (11%)	Teaching (2%)	Community (8%)
TF	0.084	0.079	0.058	0.097	0.045
GM	-0.024	-0.044	-0.127*	0.003	0.125*
AU	0.101	0.166**	0.205**	0.038	0.064
SS	-0.044	-0.076	0.013	-0.001	-0.146*
EC	-0.068	-0.162**	-0.172**	0.073	0.022
SV	-0.023	-0.230***	-0.204***	-0.051	0.090
CH	-0.017	0.135*	0.134*	-0.082	0.021
LS	-0.074	-0.078	-0.090	-0.046	-0.149**

Overall model indices:  $\chi^2 (10) = 24.832$ ,  $p = 0.006$ ; NFI = 0.998; CFI = 0.999 and RMSEA = 0.063 (N=372). Path coefficients are standardised direct effects-estimates (\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ )

TF=Technical/functional competence GM=General managerial competence AU = Autonomy  
 SS=Security/stability EC=Entrepreneurial creativity SV=Service CH = Challenge LS = Lifestyle

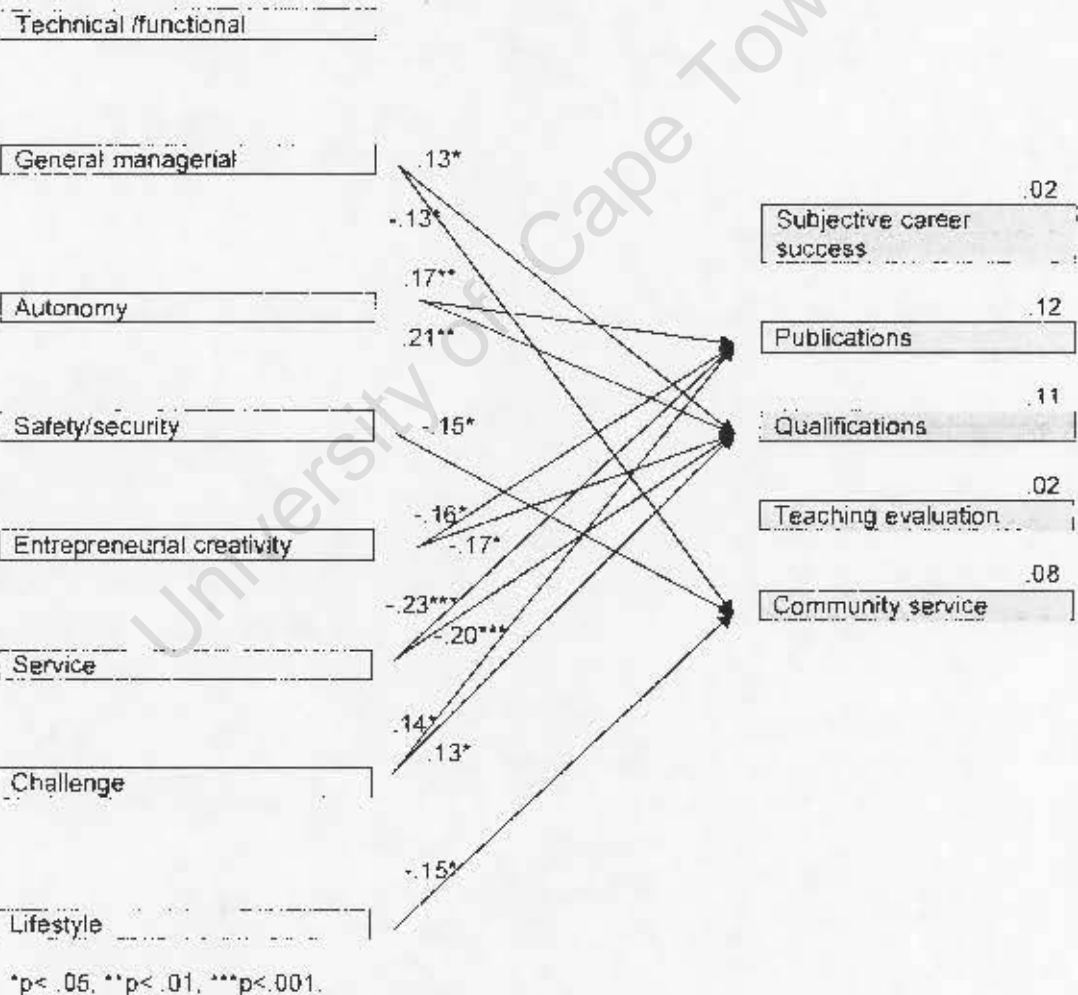


Figure 6.4:

Career anchors as predictors of career success

The model showed an acceptable overall fit ( $\chi^2 (10) = 24.84$ ,  $p = 0.006$ ; NFI = 0.99; CFI = 0.99 and RMSEA = 0.06). General managerial competence was a positive predictor of number of qualifications (.13) and a negative predictor of involvement in community service (-.13). That is, the more general managerial competence was valued as a career anchor, the more qualifications an academic woman was likely to hold but the less she was likely to be engaged in community service. Therefore *H10* (technical/functional competence positively predicts career success) was not supported but *H11* (general managerial competence positively predicts career success) was partially supported.

Autonomy and Challenge were significant positive predictors for publication output and qualifications, meaning that the more female academics valued autonomy as a career anchor, the higher their publication output (.17) and the higher their qualifications (.21). Similarly, the more female academics valued challenge as a career anchor, the higher their publication output (.14) and the higher their qualifications (.13). *H12* (autonomy positively predicts career success) and *H16* (challenge positively predicts career success) were both partially supported in respect of objective career success.

Entrepreneurial creativity and service or dedication to a cause on the other hand, were significant, negative predictors of publication output and qualifications, which means that the more female academics valued entrepreneurial creativity the less they published (-.16) and the less likely they were to pursue higher qualifications (-.17). The same applies to service. The more female academics valued service or dedication to a cause as a career anchor, the less they published (-.23) and the less likely they were to hold higher degrees (-.20). *H14* (entrepreneurial creativity negatively predicts career success) was partially supported in respect of objective career success and *H15* (service positively predicts career success) was not supported.

Lifestyle (-.15) and Security (-.15) were significant, negative predictors of involvement in community service, indicating that the more important lifestyle (balancing home and work demands) was as a career anchor, the less

engagement in community service occurred. Similarly, the more important stability and job security was as a career anchor, the less engagement in community service took place. *H13* (security positively predicts career success) was not supported but *H17* (lifestyle negatively predicts career success) was partially supported (in respect of community engagement only).

### **Final model**

Only variables that had a (+/-) path co-efficient of either equal to, or larger than, .15 were included in the final model. This threshold refers to the raw path coefficients reported in the tables (not rounded off as depicted in the figures in this document). This stringent threshold (.15) was imposed to accommodate an appropriate ratio between the number of participants and estimated parameters. A ratio of 5 cases per parameter estimate is taken as the recommended rule of thumb (Benter & Chou, 1987). The final model ratio between the number of participants (N=372) and the estimated parameters (49) was therefore acceptable.

From the three sub-models, seven exogenous variables fulfilled the path co-efficient condition of (+/-) .15 including:

- work centrality
- self-efficacy, expectations and valence (motivational factors)
- autonomy (AU), entrepreneurial creativity (EC), and service/dedication to a cause (SV) (career anchors).

The path model for the final model is depicted in Table 6.11 and Figure 6.5.

Table 6.11

Final path analysis for academic career success

Final Model: Academic Career Success					
	SCS (15%)	Publications (8%)	Qualifications (7%)	Teaching (4%)	Community (4%)
Self-efficacy	0.197***	-	-	-	-
WC	0.144**	-	-	-	-
Expectations	0.286***	-	-	-	-
Valence	-0.208***	-	-	0.195***	0.209***
Autonomy	-	0.189**	0.220***	-	-
Entrepreneurial creativity	-	-0.122*	-0.157**	-	-
Service	-	-0.232***	-0.197***	-	-
Overall model indices: $\chi^2(42) = 78.101, p = .001$ ; NFI = .994; CFI = .997 and RMSEA = .048 (N=372). Path coefficients are standardised direct effects-estimates (* $p < .05$ , ** $p < .01$ , *** $p < .001$ ).					

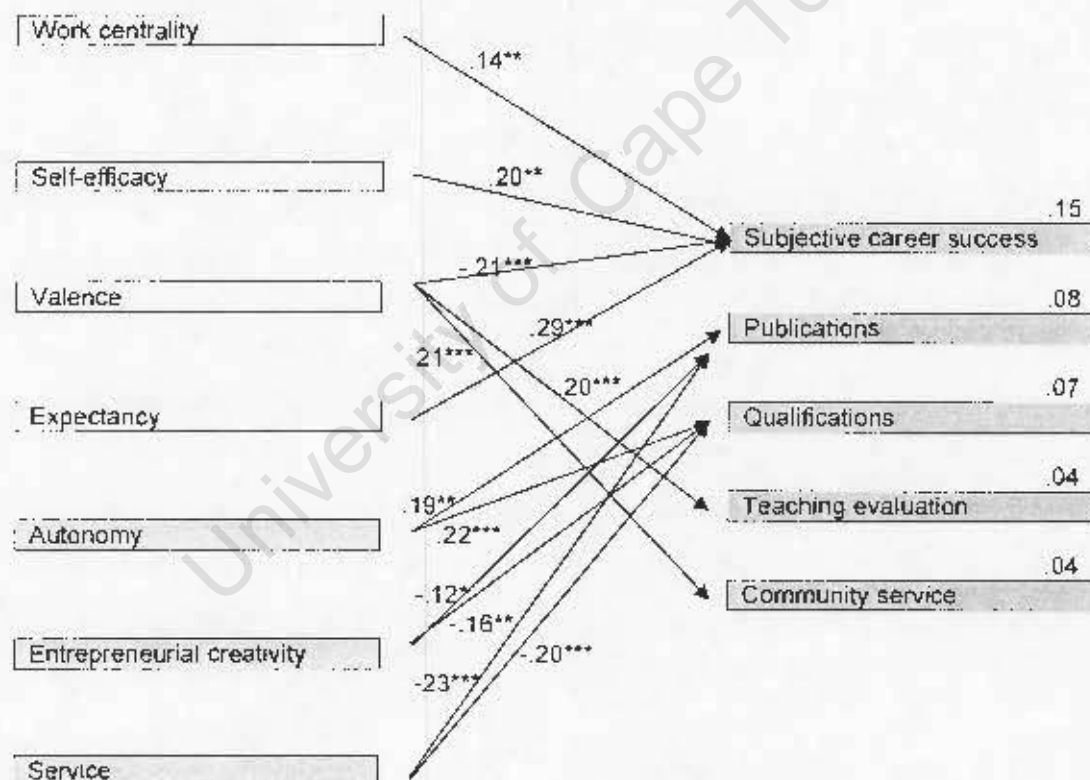
\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ 

Figure 6.5:

Parameters included in final model of career success.



The path model displayed a good model fit ( $\chi^2 (42) = 78.1, (p = .001)$ ; NFI = .99; CFI = .99 and RMSEA = .05).

Subjective career success was positively, significantly predicted by work centrality (.14), expectancy (.29) and self-efficacy (.20). It was negatively predicted by valence (-.21). This means that academic women felt more successful the higher their work centrality, the more they expected to participate in strategic decisions and the higher their self-efficacy. However, the more they valued being strategic decision-makers, the less successful they felt.

Valence was a positive significant predictor of teaching evaluations (.20) and involvement in community service (.21). The more women academics valued being strategic decision-makers, the better their teaching ratings were and the more they were involved in community service.

Autonomy was a positive significant predictor of publication output (.19) and higher qualifications (.22). The more an academic woman valued working alone, the more objective success she achieved in respect of higher qualifications and higher publication output.

In contrast, publication output was negatively predicted by entrepreneurial creativity (-.12) and service (-.23). Similarly qualifications were negatively predicted by the same two career anchors (EC = -.16 and SV = -.20). This means that the more academic women valued entrepreneurial activity and service, the less they achieve objective success in the form of higher qualifications and publication output.

### **Key trends in the final model**

The final model was a conservative one that subjected exogenous variables to rigorous path co-efficient parameters before inclusion in the model. Consequently, two key conclusions were drawn.

Firstly, seven exogenous variables were excluded from the hypothesised model. These included one work centrality variable (care-giving responsibility), one motivational variable (opportunity) and five career anchors (technical/functional competence, general managerial competence, safety/security, challenge and lifestyle). The exclusion of these variables was significant because if certain variables are erroneously presumed to impact on career success then career development strategies and interventions may be misguided. These implications are discussed later in chapter eight.

Secondly, the seven variables that remained in the final model explained the variance of distinctly different endogenous variables. Work centrality, self-efficacy and the motivational variables (expectancy and valence) explained the variance of the subjectively reported career success variables: subjective career success, teaching performance and community service involvement.

The variance of objectively reported career success variables: qualifications and publications were explained by three career anchors. Only one career anchor, autonomy, was a positive predictor of the traditional, objective career success indicators for academics. The other two anchors: entrepreneurial creativity and service were negative predictors of publication output and qualifications.

However, academic women in South Africa cannot be regarded as a homogenous group. It therefore behove investigation whether the final model of academic success revealed any group differences when it was examined for different categories of academic women. The results of this examination are reported in chapter seven.



## CHAPTER SEVEN

### EXAMINING THE FINAL MODEL

The results of successive examinations of the final model of career success (containing only seven exogenous variables) of three categories of academic women in South Africa are contained in this chapter. Using multi-group comparison as suggested by Byrne (2001, 2004) differences in predictions of the directional relationships between predictors and outcomes for different groups were identified.

Firstly, explanations of differences were sought between two race groups (black and White) because White women were advantaged during the *apartheid* years both with respect to access to education and access to employment opportunities.

However, race alone might be an insufficient categorisation because women currently in the early career stage in South Africa have not been subjected to the same legislated discrimination. In fact, they have been employed under a Constitution that advocated gender equity and should theoretically enjoy equal career success. Those in the early career stage are typically under 35 years of age and have been employed for no more than ten years after graduation. This time period also coincides roughly with the "new" South African university sector where race and age officially do not present career barriers. Consequently, a second examination of the model that combined race and age (as a career stage indicator) sought to identify group differences.

Finally, a third examination of the model was undertaken from an organisational perspective where group differences were sought based on job level combined with length of service. It was reasoned that an academic career requires at least ten years in the establishment phase before career success can be gauged. The use of length of service in the sector rather than

career stage or age accommodated participants who entered academia later than traditional career theory suggested.

### **MULTI-GROUP COMPARISON: RACE**

The final model was examined firstly by using only two race groups, (black and White) to explore any group differences. Before the results of the multi-group comparison are reported, the descriptive statistic for the whole sample is presented. Where appropriate, the ANOVA results are provided that reported group differences between black and White academic women in South African universities. Only those variables that remained in the final model are reported.

#### **Demographic profile of groups**

Six participants in this study did not report their race group. Therefore when the sample was delineated by race only, it included 74 black women and 292 White women (n=366).

#### **Endogenous variables**

When the model was applied to two race groups the results revealed the following group differences within the endogenous variables.

#### ***Subjective career success***

Subjective career success was measured using 4 items with a possible range of scores from 1= *lowest alternative* to 7= *highest alternative* ( $M=4.18$ ,  $SD=1.07$ ). A one-way ANOVA was conducted to explore the impact of race on subjective career success. The results revealed significant differences between the groups [ $F(1, 364) = 6.98$  ( $p < .01$ )]. The mean scores for black women ( $M=3.91$ ,  $SD=1.12$ ) were significantly lower than the scores of White women ( $M=4.27$ ,  $SD=1.04$ ) indicating that black women felt less satisfied with their career success than White women.

### ***Objective career success***

As mentioned previously on page 79 data were treated as interval data in the analysis.

#### ***Qualifications***

Of the 372 women in the sample, 44 percent held a PhD, 45 percent held a Masters degree and 11 percent held an Honours degree. When the two race groups (which did not fulfill the assumption of homogeneity of variance) were compared using the Welch test of Equality of Means [ $F(1,364) = 8.71$  ( $p < .05$ )], group differences were noted with black women ( $M = 2.12$ ,  $SD = .66$ ) holding significantly lower qualifications than White women ( $M = 2.38$ ,  $SD = .66$ ).

#### ***Publications***

Only 29 percent of the sample reported having published more than 10 articles in peer-reviewed journals. An equal number reported having no publications to their name ( $M = 2.11$ ,  $SD = .97$ ). Again the Welch test of Equality of Means [ $F(1,364) = 32.23$  ( $p < .01$ )], revealed group differences with White women ( $M = 2.23$ ,  $SD = .99$ ) having published more than black women ( $M = 1.65$ ,  $SD = .71$ ).

#### ***Teaching***

Participants were asked to provide subjective responses to items about their success as teachers. Over 80 percent of the sample report that they regularly received "good" or "excellent" student ratings of their teaching ( $M = 4.39$ ,  $SD = .69$ ). A one-way ANOVA revealed no significant differences between White ( $M = 3.76$ ,  $SD = 1.22$ ) and black ( $M = 3.76$ ,  $SD = .93$ ) women with respect to these ratings [ $F(1,364) = .00$ , ( $p > .05$ )].

#### ***Community service***

Data reflecting the extent of involvement in community service were evenly distributed across the response categories with 23,6% "never" being involved, 22,3% "seldom" working in the community, 25% worked "sometimes" and 29,1% worked "often" in the community ( $M = 2.87$ ;  $SD = 1.29$ ). A one-way

ANOVA revealed significant differences between the groups [ $F(1, 364)=4.23$  ( $p<.05$ )], indicating that black women ( $M=3.02$ ,  $SD=1.26$ ) were significantly more involved in community service than White women ( $M=2.68$ ,  $SD=1.26$ ).

### **Exogenous variables**

#### **Work centrality**

On a scale where 1 = *least important* to 7 = *most important*, on average women reported that work was important to them ( $M= 5.52$ ,  $SD= 1.22$ ). A one-way ANOVA revealed no significant differences between black and White women with respect to work centrality [ $F(1, 364)=.11$  ( $p>.05$ )].

#### **Self-efficacy**

Self efficacy items were scored from 1 = *completely true* to 6= *not true at all* ( $M= 4.75$ ,  $SD=.75$ ). A one-way ANOVA revealed no significant differences between black and White women [ $F(1, 364)=.21$  ( $p>.05$ )].

#### **Career Anchors**

Career anchors were measured with a possible range of scores from 1=*never true for me* to 6=*always true for me* for each item. Results included autonomy ( $M=3.92$ ,  $SD=.98$ ); entrepreneurial creativity ( $M=3.01$ ,  $SD=.98$ ) and service ( $M= 3.99$ ,  $SD= 1.04$ ).

A one-way ANOVA revealed significant differences between black and White women for two of the anchors: autonomy [ $F(1, 364)=6.93$  ( $p<.05$ )] and service [ $F(1, 364)=5.72$  ( $p<.05$ )]. The results revealed that White women ( $M=4.01$ ,  $SD=.96$ ) valued autonomy significantly more than black women ( $M=3.67$ ,  $SD=1.02$ ), and black women ( $M=4.24$ ,  $SD=1.04$ ) held a preference for service as a career anchor compared with White women ( $M=3.92$ ,  $SD=1.02$ ). No significant differences were found for entrepreneurial creativity [ $F(1, 364)=1.55$  ( $p>.05$ )].

## **Motivation**

Motivation was measured using a 21-item instrument. Seven items measured expectancy (whether participants believed they were expected to play a strategic decision-making role in their university) with a possible range of scores from 1=*strongly disagree* to 5=*strongly agree* ( $M=3.05$ ,  $SD=.78$ ). A one-way ANOVA revealed no significant differences between the expectations that black and White women held of participating in strategic decision-making within their universities [ $F(1, 364)=3.49$  ( $p>.05$ )].

Six items on the scale measured valence (whether it was important to participants to be regarded as strategic decision-makers) with a possible range of scores from 1=*strongly disagree* to 5=*strongly agree* ( $M= 3.48$ ;  $SD=.84$ ). The Welch test of Equality of Means [ $F(1, 364)=.11.14$  ( $p<.01$ )] revealed significant differences between black ( $M=3.77$ ,  $SD=0.63$ ) and White ( $M=3.41$ ,  $SD=.87$ ) women with respect to how important it is to them to participate in strategic decision-making within their universities with black women valuing this more than White women.

## **Model examination**

In the first step of the multi-group comparison, testing for the validity of the final model was conducted for the two groups simultaneously (parameters were estimated for the two groups at the same time). The model fit of the simultaneously estimated model provided baseline values against which the subsequently specified models (restricted models) were compared. The multi-group model reflected the extent to which the model fit the data when no cross-group constraints were imposed.

As indicated in Table 7.1, the model fit statistics for this two-group, unconstrained model indicated a good model fit:  $\chi^2(84) = 119.16$  ( $p=.007$ ),  $NFI=.99$ ,  $CFI=.997$  and  $RMSEA=.034$ . Since the estimation of the baseline models involved no between-group constraints, the data were analysed

separately for each group. Table 7.1 (see next page) provides a summary of the path analysis results for the two groups.

In the second step of the analysis, in order to establish if significant group differences existed with respect to the estimated path coefficients, the assumption of path invariance across groups was falsified. This was tested by imposing cross-group equality constraints on the path estimates. The results revealed no significant differences between the baseline model fit and the specified model fit indicating that the two groups did not differ significantly in respect of the model structure.

Therefore, according to the model in this study, career success among academic women in South Africa cannot be explained by race. Other criteria must be sought.

Table 7.1:

Multi-group comparison: Race

Multi-group Comparison: Race groups [White subjects (n=292) x Black subjects (n=74)]										
	Subjective Career Success		Publishing		Qualifications		Teaching		Community	
	White	Black	White	Black	White	Black	White	Black	White	Black
<b>Variance explained</b>	<b>15%</b>	<b>20%</b>	<b>6%</b>	<b>6%</b>	<b>5%</b>	<b>16%</b>	<b>4%</b>	<b>3%</b>	<b>4%</b>	<b>3%</b>
Self-efficacy	.120*	.375***	-	-	-	-	-	-	-	-
Work centrality	.115*	.107	-	-	-	-	-	-	-	-
Expectancy	.334***	.187	-	-	-	-	-	-	-	-
Valence	-.200***	-.149	-	-	-	-	.194**	.165	.196***	.160
Autonomy	-	-	.130*	.224	.145*	.447**	-	-	-	-
Entrepreneurial creativity	-	-	-.080	-.106	-.123	-.301*	-	-	-	-
Service	-	-	-.218***	-.223	-.163**	-.286*	-	-	-	-

Overall model indices:  $\chi^2(84) = 119.16$ ,  $p = .007$ ; NFI = .890; CFI = .997 and RMSEA = .034. The path coefficients are the standardised direct effects-estimates (\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ).

## MULTI-GROUP COMPARISON: RACE AND CAREER STAGE

A second examination of the model was conducted using the classification criteria of race combined with age as a career stage indicator. The four groups compared in this section of the study are reported as: black, early career women under the age of 35; black, mid-career, aged 35 years or older; White, early career women under the age of 35; and White, mid-career, aged 35 years or older.

### Demographic profile of groups

The demographic profile of this data subset is presented in Table 7.2.

Table 7.2:

*Demographic profile of race/career stage groups.*

	Early career (younger)	Mid-career (older)
black	36	38
White	75	217

This uneven distribution was expected given the history of black women's access to employment in universities in South Africa.

### Endogenous variables

#### *Subjective career success*

A one-way ANOVA conducted to explore the impact of race and age on subjective career success revealed significant differences between the groups [ $F(3, 362)=4, 76$  ( $p<.01$ )]. Post-hoc comparison using the Tukey HSD test indicated that the mean scores for black mid-career women ( $M=3.59$ ,  $SD=1.18$ ) were significantly lower than the scores of black early career women ( $M=4.22$ ,  $SD=.95$ ), White early career women ( $M=4.34$ ,  $SD=.91$ ), and White mid-career women ( $M=4.24$ ,  $SD=1.07$ ). The scores of the latter three



groups did not differ from each other indicating that black, mid-career women are significantly less satisfied with their perceived career success than any of the other three groups.

### ***Objective career success***

#### *Qualifications*

Over half of the White, mid-career women held a PhD (53%). Roughly one-third of black mid-career (37%) and White early-career women (33%) and 20% of the black, early-career women had a PhD. Again these results are to be expected given the age, history and occupation of the sample.

#### *Publications*

A one-way ANOVA also revealed significant group differences between the four groups with respect to publication output [ $F(3, 362)=17.46$  ( $p<.001$ )]. White, mid-career women ( $M=2.37$ ,  $SD=1.03$ ) had a significantly higher publishing output than black, early career women ( $M=1.41$ ,  $SD=.55$ ), black mid-career women ( $M=1.86$ ,  $SD=.77$ ), and White, early career women ( $M=1.77$ ,  $SD=.68$ ). The publishing output of black, early career women was significantly lower than that of black mid-career women and White, early career women. Black mid-career women and White, early career women did not differ from each other. Thus White, mid-career women had the highest publishing record of the four groups and black, early career women had the lowest.

#### *Teaching*

A one-way ANOVA revealed group differences [ $F(3, 318)= 2.93$  ( $p<.05$ )]. Significant differences were revealed between black mid-career women ( $M=4.09$ ,  $SD=.76$ ) and White, mid-career women ( $M=4.45$ ,  $SD=.61$ ). Black, early career women ( $M=4.29$ ,  $SD=.57$ ) and White, early career women ( $M=4.39$ ,  $SD=.86$ ) did not differ from each other nor did they differ from either mid-career group.

### *Community service*

Group differences were also apparent for community service involvement [ $F(3, 336) = 9.23$  ( $p < .001$ )]. White, early career women ( $M = 2.17$ ,  $SD = 1.09$ ) reported significantly less community service involvement than White mid-career women ( $M = 3.02$ ,  $SD = 1.25$ ) and black, mid-career women ( $M = 3.24$ ,  $SD = 1.32$ ) but not significantly less than black, early career women ( $M = 2.71$ ,  $SD = 1.32$ ).

### **Exogenous variables**

#### ***Work centrality***

Significant group differences [ $F(3, 362) = 3.7$  ( $p < .05$ )] between the groups at the  $p < .05$  level were revealed by a one-way ANOVA with respect to work centrality. Post-hoc comparison using the Games-Howell test (because the homogeneity assumption was violated) indicated that the significant differences existed between White, early career women ( $M = 5.14$ ,  $SD = 1.23$ ) and White, mid-career women ( $M = 5.67$ ,  $SD = 1.02$ ). Black, early career women ( $M = 5.55$ ,  $SD = 1.25$ ) and black, mid-career women ( $M = 5.55$ ,  $SD = 1.71$ ) did not differ from each other nor from the two white groups. This result indicated that work centrality held significantly less importance for White, early-career women than for White mid-career women for whom it had the highest significance of all four groups.

#### ***Self-efficacy***

A one-way ANOVA was conducted to explore the impact of age and race on self-efficacy which revealed significant differences between the groups [ $F(3, 362) = 3.21$ ,  $p < .05$ ]. Post-hoc comparison using the Tukey HSD test indicated that the mean scores for White, early-career women ( $M = 4.55$ ,  $SD = .70$ ) were significantly lower than the scores of black, early career women ( $M = 4.77$ ,  $SD = .78$ ), black, mid-career women ( $M = 4.68$ ,  $SD = .96$ ), and White mid-career women ( $M = 4.84$ ,  $SD = .68$ ). The scores of black, early career women, black, mid-career women, and White mid-career women did not differ from each

other. The results indicate that of the four groups, early-career White women report the lowest feelings of occupational self-efficacy of all four groups.

### ***Career Anchors***

A one-way ANOVA revealed no significant group differences for any of the career anchors: autonomy [ $F(3, 362)=2.46, p>.05$ ]; service [ $F(3, 362)=2.06, p>.05$ ] and entrepreneurial creativity [ $F(3, 362)=1.8, p>.05$ ].

### ***Motivation***

#### ***Expectancy***

No group differences were revealed for expectancy [ $F(3, 362)=2.43, p>.05$ ].

#### ***Valence***

A one-way ANOVA (using the Welch test) was conducted to explore the impact of age and race on valence which revealed significant group differences [ $F(3, 362)=9.47, (p<.001)$ ]. Post-hoc comparison using the Games-Howell test (because the homogeneity assumption was violated) indicated that the valence score for White, early career women ( $M=3.07, SD=.85$ ) was significantly lower than the scores of black, early career women ( $M= 3.75, SD=.66$ ), black, mid-career women ( $M=3.78, SD=.60$ ) and White, mid-career women ( $M= 3.52, SD=.84$ ). The scores of black, early career women; black, mid-career women and White, mid-career women did not differ from each other. This result suggested that of the four groups, White, early-career women showed the least interest of all four groups in assuming strategic positions in the university.

### ***Model examination***

The model fit statistics related to the four-group unconstrained model indicated a reasonable model fit:  $\chi^2(168) = 246.41 (p=.000)$ ,  $NFI=.98$ ,  $CFI=.994$  and  $RMSEA=.036$ . The results are summarised in Table 7.3.

Table 7.3

Multi-group comparison: Race and age (as indicator of career stage)

Final Model: Race x Age [White-Mid-career (n=217) x White-Early-career (n=75) x Black Mid-career (n=38) x Black-Early-career (n=36)]																				
	Subjective Career Success				Publishing				Qualifications				Teaching				Community			
	WM	WE	BM	BE	WM	WE	BM	BE	WM	WE	BM	BE	WM	WE	BM	BE	WM	WE	BM	BE
Variance explained	15%	10%	34%	19%	7%	7%	4%	14%	6%	5%	8%	23%	4%	0%	2%	4%	4%	0%	7%	1%
Self-efficacy	.157**	.099	.442***	.412**																
Work centrality	.143*	.137	.192	.071																
Expectancy	.336***	.336**	.278*	.122																
Valence	-.131*	.324**	-.125	-.107									.193**	.041	.144	.205	.190**	.025	.273*	.116
Autonomy					.141	-.102	.217	.207	.178*	.056	.341	.470**								
Entrepreneurial creativity					-.017	-.123	-.186	.152	-.068	.165	.174	.392*								
Service					-.248***	-.119	-.192	-.287	-.193**	.057	.276	.250								
Overall model indices: Chi <sup>2</sup> (168) = 246.41, p = .000; NFI = .980; CFI = .994 and RMSEA = .036. The path coefficients are the standardised direct effects-estimates (*p < .05, **p < .01, ***p < .001).																				

WM = White, mid-career, WE = White, early career, BM = black mid-career, BE = black, early career.

The test of the assumption of paths invariance across the four groups (by imposing cross-group equality constraints on the path estimates) revealed no significant differences between the baseline model fit and the specified model fit. The results suggest that the four groups did not differ significantly in respect of the model structure.

In summary, when the final model was examined using the race and career stage of academic women as delineators, a number of differences emerged. White, mid-career women dominated in numbers in the sample and were the most qualified, published the most and reported the highest teaching ratings. In contrast, black mid-career women reported the least subjective career success. White, early career women appeared to be the least interested in work of the four groups, were the least interested in assuming strategic decision-making roles in the university and reported the lowest self-efficacy. Black early career women had the fewest PhD's, published the least but did not differ significantly from other groups on the other variables. It is important to note that in almost all cases where differences were recorded, they were at a low level of significance ( $p < .05$ )

The differences noted thus far pertained to inter-group distinction within each variable. However, when causality was proposed using the model, no group differences could be identified. Therefore, according to the model in this study, career success among academic women in South Africa cannot be explained by race or race and age (career stage) combined. Again, other criteria beyond demographic factors must be sought.

## MULTI-GROUP COMPARISON: ORGANISATIONAL GROUPS

A final examination of the model used an organisational perspective. The original sample was divided into three groups that were delineated according to the career success of group members. In this analysis, career success was defined by two indicators, job level combined with length of service.

The use of job level as an objective success indicator has already been explained (see previous chapter). Job level was the only career success indicator that correlated positively and significantly with every other indicator (qualifications, publication output, teaching evaluation, community service involvement and subjective career success). Thus it was used as the best indicator of academic career success. Job level was combined with length of service in the sector to delineate the groups because in the university sector, job level is directly related to length of service. Furthermore, it was reasoned that if women had entered the sector recently (in the last ten years) or had interrupted their careers then they would not be classified incorrectly. In this study 52% of the sample had been employed in higher education for less than 10 years, 32% had been employed for between 10 and 20 years and 15% had over 20 years service.

This third examination of the model classified participants into three career success groups: promoted, plateaued and potentials. As stated earlier in the literature review, promoted individuals are those who have been successful as evidenced by their progression up the organisational job levels within an appropriate (for the sector) period of time. Plateaued individuals are those whose careers have not progressed despite their continued presence in the sector. Potentials are those individuals who have not succeeded yet but display talent in the early career period. For reasons stated earlier, age, career stage and length of service were closely aligned in this study. Therefore all participants in this study with less than ten years university sector service were classified as potentials, regardless of their job level ( $n=187$ ). Those with over ten years service who held non-professorial job levels (Senior Lecturer and below) were classified as plateaued ( $n=114$ ) and



those with over ten years service who held the professorial job levels of Associate Professor and above were classified as promoted (n=71). The five participants who held the position of either: Dean, Director or DVC were included in the promoted group.

### **Demographic profile of groups**

When the objective success criteria were limited to job level combined with length of service, the demographic profile of the sample appeared as presented in Table 7.4.

Table 7.4:

*Demographic profile of organisational groups*

	black	White
Potentials	53	130
Plateaued	16	97
Promoted	5	65

As with the second examination of the model, this distribution was understandable. Given South Africa's history of advantaging White individuals over black in respect of access to the higher education sector, it was expected that proportionally more white women would have been promoted than black women.

### **Endogenous variables**

#### ***Subjective career success***

A one-way ANOVA was conducted to explore the impact of job level combined with length of service on subjective career success which revealed significant differences among the organisational groups [ $F(2, 369)=22.6$  ( $p<.001$ )]. Post-hoc comparison using the Tukey HSD test indicated that the mean scores for promoted women ( $M=4.77$ ,  $SD=1.05$ ) were significantly

higher than the scores of plateaued women ( $M=3.75$ ,  $SD=.96$ ) and potentials ( $M=4.2$ ,  $SD=1.03$ ). Potentials and plateaued also differed from each other with potentials more satisfied than plateaued women. These results indicated that longer service women who held higher job levels in the university sector (promoted) were significantly more satisfied with their perceived career success than those with less than ten years service (potentials). The least satisfied group was those women with more than ten years service who had not reached the professorial level (plateaued).

### ***Objective career success***

Similar patterns of results were revealed when Teaching, Community, Publications and Qualifications were compared. For each of these variables one-way ANOVA results revealed significant differences between the three groups: Teaching [ $F(2, 369)=4.96$  ( $p<.01$ )]; Community [ $F(2, 369)=8.78$  ( $p<.001$ )]; Publications [ $F(2, 369)=96.97$  ( $p<.001$ )] and Qualifications [ $F(2, 369)=27.56$  ( $p<.001$ )].

#### ***Teaching***

Post-hoc comparison using the Tukey HSD test showed that for Teaching evaluation, the mean scores for the promoted group ( $M=4.03$ ,  $SD=1.17$ ) were significantly higher than the potentials ( $M=3.57$ ,  $SD=1.17$ ). The plateaued group ( $M=3.87$ ,  $SD=1.13$ ) did not differ significantly from either group.

#### ***Community involvement***

Post-hoc comparison using the Tukey HSD test showed that for Community involvement, the mean scores for the promoted group ( $M=3.28$ ,  $SD=1.09$ ) were significantly higher than the potentials ( $M=2.55$ ,  $SD=1.28$ ) and the plateaued ( $M=2.77$ ,  $SD=1.27$ ). The potentials and the plateaued did not differ from each other.

#### ***Publications and Qualifications***

The Games-Howell test used for Publications and Qualifications revealed consistent patterns of results. In both cases the mean scores of the promoted



group (publications:  $M=3.23$ ,  $SD=.97$ ; qualifications:  $M=2.79$ ,  $SD=.51$ ) were significantly higher than the plateaued group (publications:  $M=2.07$ ,  $SD=.73$ ; qualifications:  $M=2.33$ ,  $SD=.62$ ) which in turn, were significantly higher than the potentials (publications:  $M=1.71$ ,  $SD=.74$ ; qualifications:  $M=2.14$ ,  $SD=.67$ ).

Collectively these results meant that for all the variables that measured objective career success, the mean scores of the promoted were higher than the plateaued and the potentials. This was to be expected, given that job level correlated positively and significantly with all other career success indicators.

## **Exogenous variables**

### ***Work centrality***

A one-way ANOVA revealed differences amongst the three groups [ $F(2, 369)=9.1$  ( $p<.001$ )]. Work centrality was significantly higher for the promoted ( $M=6.04$ ,  $SD=.76$ ) than either the potentials ( $M=5.34$ ,  $SD=1.28$ ) or the plateaued ( $M=5.48$ ,  $SD=1.25$ ). Potentials and plateaued did not differ from each other.

### ***Self-efficacy***

When self-efficacy was examined amongst the three organisational groups, no significant differences were revealed [ $F(2, 369)=2.42$  ( $p>.05$ )].

### ***Career Anchors***

No significant differences were revealed between the groups for any of the career anchors: autonomy [ $F(2, 369)=.27$  ( $p>.05$ )]; service [ $F(2, 369)=1.9$  ( $p>.05$ )]; entrepreneurial creativity [ $F(2, 369)=1.65$  ( $p>.05$ )].

## **Motivation**

### *Expectancy*

A one-way ANOVA revealed group differences about their expectations of playing a decision-making role within their universities [ $F(2, 369)=8.13$  ( $p<.001$ )]. The promoted ( $M=3.36$ ,  $SD=.82$ ) expected to play a significantly higher role than either the potentials ( $M=2.94$ ,  $SD=.76$ ) or the plateaued ( $M=3.03$ ,  $SD=.74$ ). There were no significant differences between the potentials and plateaued.

### *Valence*

Results from a one-way ANOVA about the value of participating in strategic university decision-making also revealed group differences. The Welch-t-test was used because the homogeneity of variance was not fulfilled [ $F(2, 189)=6.63$  ( $p<.01$ )]. Results revealed that both the promoted ( $M=3.65$ ,  $SD=.76$ ) and the plateaued ( $M=3.62$ ,  $SD=.74$ ) differed significantly from the potentials ( $M=3.32$ ,  $SD=.89$ ). Unlike the potentials for whom this is not as important, both the promoted and the plateaued valued the opportunity to engage in university strategic decision-making.

## **Model examination**

The model fit statistics related to this three-group unconstrained model indicated a good model fit:  $\chi^2(126) = 159.66$  ( $p=.023$ ),  $NFI=.987$ ,  $CFI=.997$  and  $RMSEA=.027$ . The results for the three groups are depicted in Table 7.5.

Table 7.5:

Multi-group comparison: Organisational groups

Final Model: Organisational Groups (P1=Potentials (n=187) x P2=Plateaued (n=114) x P3=Promoted (n=71))															
	Subjective Career Success			Publishing			Qualifications			Teaching			Community		
	P1	P2	P3	P1	P2	P3	P1	P2	P3	P1	P2	P3	P1	P2	P3
Variance explained	16%	11%	35%	12%	3%	13%	11%	7%	5%	4%	1%	4%	6%	1%	1%
Self efficacy	.260***	.170	.171												
Work centrality	.075	.237**	.144												
Expectancy	.264***	.099	.569***												
Valence	-.220**	-.106	-.311**							.198**	.105	.189	.250***	.110	.120
Autonomy				.198*	.098	.154	.213**	.310**	-.103						
Entrepreneurial creativity				-.210**	.070	.167	-.194*	-.133	.114						
Service				-.278***	-.113	-.273*	-.268***	-.028	-.202						
Overall model indices. Chi <sup>2</sup> (126) = 159.64, p=.023; NFI= .987; CFI= .997 and RMSEA= 0.027. The path coefficients are the standardised direct effects-estimates (*p< .05, **p< .01, ***p<.001).															

Testing for the assumption of path invariance across the three groups (by imposing cross-group equality constraints on the path estimates) revealed significant differences between the baseline model fit and the specified model fit in three out of twelve paths. Expectancy on Subjective Career Success ( $\chi^2 (2) = 10.16, p=.006$ ); Autonomy on Qualifications ( $\chi^2 (2) = 7.54, p=.023$ ); and Entrepreneurial Creativity on Publications ( $\chi^2 (2) = 7.48, p=.024$ ).

### ***Path differences***

The group differences in the path: expectancy on subjective career success revealed significant differences between the promoted and the potentials ( $\chi^2 (1) = 4.47, p=.034$ ). Significant differences were also evident between the promoted and the plateaued ( $\chi^2 (1) = 10.11, p=.001$ ), but not between potentials and plateaued ( $\chi^2 (1) = 2.24, p=.134$ ). The directional relationship (path co-efficients are given in parenthesis) between expectancy on SCS for the promoted group (.57) was significantly higher (stronger) than for the potentials (.26) and the plateaued (.09). This suggested that those who expected to participate in strategic decision-making felt more successful than those who do not.

Group differences in respect of the path: autonomy on qualifications emerged between the promoted group and the potentials ( $\chi^2 (1) = 5.44, p=.020$ ). Significant differences were also evident between the promoted and the plateaued ( $\chi^2 (1) = 6.30, p=.012$ ), but not between potentials and plateaued ( $\chi^2 (1) = .107, p=.744$ ). Both the potentials (.21) and the plateaued (.31) gained more qualifications the more they valued autonomy as a career anchor. However, the significant functional interrelation between autonomy and qualifications disappeared with the promoted (-.10). This result suggested that valuing autonomy as a career anchor appeared to serve women academics well until they actually achieved objective career success. Thereafter it appeared to lose value as an anchor.

Finally, group differences were revealed in the path: entrepreneurial creativity on publication output. The path coefficient of the potentials (-.21) differed

significantly from the plateaued (.07) ( $\chi^2 (1) = 4.12, p=.042$ ) and from the promoted (.17) ( $\chi^2 (1) = 4.91, p=.027$ ). However the plateaued and the promoted did not differ significantly ( $\chi^2 (1) = .778, p=.378$ ). This result indicated a clear difference based on length of service rather than job level. It suggested that the relationship between entrepreneurial creativity and publication output existed for potentials but disappeared as length of service increased.

In summary, when the model was examined in terms of demographic and organisational groups, group differences became apparent as summarised in Table 7.6.

Table 7.6:

*Summary of descriptive results*

MODEL VARIABLES	SIGNIFICANT GROUP DIFFERENCES		
	Race only	Race & career stage	Organisational groups
Outcomes			
Subjective career success	White > black	BMC < all other groups	PRM > POT > PLT
Publications	White > black	WMC > BMC = WEC > BEC	PRM > PLT > POT
Qualifications	White > black		PRM > PLT > POT
Teaching	No difference	BMC < WMC; WEC & BEC = no differences	PRM > POT; PLT = no difference
Community service	White < black	WEC & BEC < WMC & BMC	PRM > POT & PLT
Predictors			
Work centrality	No difference	WMC > WEC; BMC & BEC = no differences	PRM > POT & PLT
Self-efficacy	No difference	WEC < WMC, BEC & BMC	No differences
Expectancy	No difference	No differences	PRM > POT & PLT
Valence	White < black	WEC < WMC, BEC & BMC	POT < PRM & PLT
Autonomy	White > black	No differences	No differences
Entrepreneurial creativity	No difference	No differences	No differences
Service	White < black	No differences	No differences

WMC=White mid-career, BMC=black mid-career, WEC=White early career, BEC=black early career. PRM= Promoted. PLT= Plateaued. POT= Potentials.

The organisational groups offered the best explanations for career success. The descriptive results revealed that for all objective success criteria the promoted outdid the plateaued who outdid the potentials. This is obvious because group members were assigned on the basis of job level that was positively correlated to all objective success criteria. However, when subjective success was examined the promoted scored highest, followed by potentials with the plateaued scoring lowest. With respect to the exogenous variables, work centrality was highest for the promoted and no differences were noted for self-efficacy or career anchors. Although only the promoted expected to contribute strategically to the university, both the promoted and the plateaued valued the opportunity to do so.

The final model revealed three path differences when organisational groups were examined: expectancy on subjective career success; autonomy on qualifications; and entrepreneurial creativity on publication output (negative). Thus career success in academia may be predicted by certain career variables if groups are compared using job level and length of service, not race or career stage.

Due to rigorous limitations placed on the model a number of variables were excluded from the final model. However, these exclusions were an important finding that is discussed in the following chapter.

## CHAPTER EIGHT

### VARIABLES EXCLUDED FROM THE FINAL MODEL

Due to rigorous statistical limitations placed on the model, based on the ratio between sample size and parameters, seven exogenous variables contained in the hypothesised model were excluded from the final model. However, these exclusions were worth reporting as they offered insight into which variables did not appear to impact on the career success of academic women. The most notable of these excluded variables was care-giving responsibility that was found to represent a range of personal circumstance factors.

#### EXOGENOUS VARIABLES

##### **Personal circumstances**

The five items included in the measuring instrument on personal circumstances pertained to: marital status, number of family members who require time and attention, extent of unpaid work, income source in the household and perceived support received. Due to a technical survey error, data for the last item were not captured and therefore were not reported.

##### ***Care-giving responsibility***

In this study 83% of the participants reported that they had care-giving responsibilities for individuals beyond themselves including dependant children, partners and/or aging relatives (nine percent reported caring for all three) ( $M=3.87$ ;  $SD= 2.25$ ). A one-way ANOVA conducted revealed significant differences among the demographic groups [ $F(3, 362) =11.6$  ( $p<.001$ )]. Post-Hoc-Comparison using the Tukey HSD test indicated that black, mid-career women ( $M=5.13$ ,  $SD=2.09$ ) had significantly more care-giving responsibilities than any of the other three groups. No significant differences were revealed among White, early career women ( $M=2.74$ ,  $SD=1.94$ ), black, early career

women ( $M=3.08$ ,  $SD=2.32$ ) and by White, mid-career women ( $M=4.05$ ,  $SD=2.20$ ).

### ***Domestic work responsibilities***

Questionnaire items that investigated domestic responsibilities (including housework and food preparation) were recoded from 1 = *no responsibility* to 4 = *high responsibility*. The results were normally distributed ( $M=2.5$ ,  $SD=1.04$ ). ANOVA results revealed no demographic group differences with respect to domestic responsibilities [ $F(3, 362) = .88$  ( $p>.05$ )].

### ***Income source***

Similarly, raw scores for household income source were recoded to range from 1=*shared income* to 4=*only income* ( $M=2.53$ ,  $SD=1.12$ ). ANOVA results revealed no group differences [ $F(3, 362) = 1.88$  ( $p>.05$ )].

When the personal circumstances results were viewed collectively an interesting anomaly arose. The purpose of establishing participants' marital status was based on the belief that a partner would influence other household matters such as income and care-giving/domestic responsibilities. Raw data were reworked to include only two groups, those with a co-habiting partner (63.7% of the sample) and those without (36.3%).

A one-way ANOVA revealed differences between the two groups on the following items: care-giving responsibility [ $F(1, 370) = 32.73$  ( $p<.001$ )]; domestic responsibility [ $F(1, 370) = 48.24$  ( $p<.001$ )] and income [ $F(1, 370) = 187.19$  ( $p<.001$ )]. Mean scores differed as follows: Care-giving responsibility (with partners:  $M=4.35$ ,  $SD=2.16$ ; without partners:  $M=3.01$ ,  $SD=2.16$ ); domestic responsibility (with partners:  $M=2.77$ ,  $SD=.9$ ; without partners:  $M=2.04$ ,  $SD=1.11$ ) and income (with partners:  $M=3.02$ ,  $SD=.86$ ; without partners:  $M=1.67$ ,  $SD=1.01$ ). In summary these results revealed that for the sample in this study, women who had partners had more care-giving responsibilities, more domestic responsibilities and were more likely to be primary household breadwinners



than women without partners. Furthermore, care-giving responsibility was positively and significantly correlated to job level ( $r=.104$ ) in this study.

### **Career Anchors**

A second set of variables that were omitted from the final model included five of eight career anchors.

As was evident in the correlation matrix (Table 6.4), technical/functional competence, general managerial competence and challenge were not correlated to either objective or subjective career success.

Although security/stability ( $r= -.134$ ) and lifestyle ( $r= -.219$ ) were negatively and significantly correlated to objective career success, the path coefficients were insufficiently robust for inclusion in the model.

### **Opportunity**

Of the motivation variables included in this study, only opportunity was excluded from the final model.

Seven items measured whether participants believed they were given access to strategic opportunities and information in the university with a possible range of scores from 1 = *strongly disagree* to 5 = *strongly agree* ( $M= 2.92$ ,  $SD= .8$ ).

A one-way ANOVA revealed group differences [ $F(3, 362) = 4.55$  ( $p<.01$ )]. Post-hoc comparison using the Tukey HSD test indicated that White, early-career women ( $M= 2.66$ ,  $SD= .79$ ) perceived fewer opportunities to access strategic information in their universities than either of the mid-career groups (black:  $M= 3.21$ ,  $SD= .78$ , White:  $M= 2.94$ ,  $SD= .78$ ). This is in contrast to black, early-career women ( $M= 3.01$ ,  $SD= .77$ ) who did not differ significantly from any of the other three groups.

When the opportunity to play a strategic decision-making role was examined from an organisational perspective, differences were revealed among the groups [ $F(2, 369)=7.26$  ( $p=.001$ )]. As with expectancy, the differences lay with the promoted group ( $M=3.24$ ,  $SD=.83$ ) who perceived significantly more opportunities to participate in university decision-making than either the potentials ( $M=2.82$ ,  $SD=.75$ ) or the plateaued ( $M=2.86$ ,  $SD=.81$ ).

## ENDOGENOUS VARIABLES

### NRF rating

One further item was included in the measuring instrument as a potential indicator of objective career success. It asked participants to indicate from one of seven possible categories (plus six sub categories) if they were a rated scientist in South Africa (one category made provision for academics who were not rated). The data derived from this item were excluded from analysis as they were so clearly invalid. However the result deserves reporting.

Eleven percent of the sample reported their national research rating as A (the highest rating in South Africa from 6 available categories). South Africa boasts only three female A-rated scientists. The result highlighted the shocking ignorance of women academics about how research is evaluated and consequently, the role such an evaluation could play in their personal career development.

In brief, this chapter sought to provide an overview of the results obtained from the seven exogenous variables that were excluded from the final model used in this research. Even when a positive correlation between two variables was obtained, the variable was excluded from the final model if the path co-efficient was considered insufficiently robust (less than .15). The exclusion of caregiving responsibility, five career anchors and opportunity suggested that such career variables have less impact on academic career success than may have been previously supposed or argued in qualitative studies.

## **CHAPTER NINE**

### **DISCUSSION**

The findings from this study provide a response to the overarching research question posed in this study: Can the career success of academic women employed in South African universities be explained in terms of specific career variables? Overall findings from the generation of the model are discussed, followed by general findings from examining the model using various groups. Thereafter group differences per variable are discussed which offer a more nuanced understanding of the results. Limitations of this study are also included.

#### **GENERATION OF THE MODEL**

The final model generated in this study included five endogenous variables that were predicted by seven exogenous variables. The key findings were:

- Job level alone is an appropriate indicator of career success in academia.
- Publication output and qualifications were predicted positively by the career anchor, autonomy and negatively predicted by service and entrepreneurial creativity.
- Teaching evaluation and community service involvement were predicted positively by motivational valence.
- Subjective career success was predicted positively by work centrality, motivational expectancy and self –efficacy. It was predicted negatively by motivational valence.

#### **Job level only**

In this study an effort was made to examine sector specific criteria that measured objective success. This was done specifically because previous

studies reported that women were drawn to teaching and community involvement and men to research (Bagilhole, 1993; Poole & Bornholdt, 1998; West & Lyon, 1995). It was reasoned that by expanding the definition of objective career success to include job elements traditionally viewed as the bastion of women academics, women would have a greater chance of being described as objectively successful. This logic was not supported by the results of this study where job level alone was found to be an appropriate indicator of academic career success.

Those women who had been promoted to the professorial job levels did have strong publication records and high qualifications but they also received high teaching evaluations and were involved in community work. This contradicts the contention of participants in the Australian study that to be successful one had to be a "single-minded writing machine" (Harris et al., 1998, p. 139).

However, one cautionary note is worth mentioning. In this study, organisational groups were classified according to job level and women were compared with other women. They were not and perhaps should not, be compared with men because the objective success criteria may not be comparable as Prozesky (2005) discovered in her study on publication outputs. Co-incidentally she analysed her data by dividing participants into professorial and non-professorial groups exactly correlating with the promoted (professorial) group; and the plateaued and potentials (non-professorial) groups in the present study, making comparisons easier. She found that women with equal or higher publication levels than men occupied lower job levels than men in South African universities.

Therefore, whilst it is acceptable within the boundaries of this study to refer to the promoted and the plateaued based on job level as a consequence of publication output, it is possible that some plateaued women might have been promoted had they been men. This suggests that career development strategies for academic men and women in universities might benefit from differentiation. Caplan (1995, p. 48) identified this trend and alerted women academics to the "myth of meritocracy" which is the belief in academia that

individuals are rewarded exclusively on the quality and quantity of their work output. Nonetheless, comparisons can be made between women as some have proved themselves to be more objectively successful than others.

### **Publication output and qualifications**

These two objective career success indicators are widely regarded as the keys to advancement in academia. In this study the only variable that positively predicted this advancement was the career anchor, autonomy. Individuals with this career anchor seek work that allows them to control how and when work is performed (Schein, 1996) which suggests that individuals who seek to work independently will succeed in academia.

This finding supported Lindholm's (2004) finding that male and female academics were attracted to universities as places of employment because they expressed a need for autonomy, independence and individual expression. Dubin (1992) also argued that the three conditions required for high work centrality (creative work, personal responsibility for outcomes and a measure of risk) led to the creation of an autonomous work environment.

The findings in this study contradict those from Schaupp (1995) who argued that the social isolation experienced by women academics contributed to lower research output. She found a direct correlation between organisational warmth (sociability, belonging and group membership) and high work expectations for women. Saunderson (2002) also identified individualism as problematic for women. She argued against new managerialism that is driven by competition and emphasises results over process, which she believed was a particular strength of academic women. She added that collegiality as a process and not an outcome was crucial for academic women (Saunderson). Obviously women are not a homogenous group but it is possible that if women value collegiality, fewer women than men may value autonomy as a career anchor and this may contribute to their location in the plateaued rather than the promoted group.

Callanan (2003) maintained that organisational culture has an impact on career success and organisational culture is shaped in part by rewards. Universities will have to decide what it is they reward. If the organisational culture rewards autonomy (via rewarding publications output and qualifications) then a contradiction has arisen with the introduction of managerial values. Individuals who have autonomy as a career anchor not only seek to control their work content but also its context. They value freedom even at the expense of more money or power (Schein, 1996). Universities seeking to introduce new managerialism and increasing controls over academic staff may find that such measures restrict the very behaviour they seek to enhance, research output. This finding also raises questions about the increasing emphasis that is placed on collaborative and inter-disciplinary research that would appear unlikely to attract those with autonomy as their career anchor.

Unsurprisingly, entrepreneurial creativity was a negative predictor of academic career success. This result was expected due to the nature of higher education institutions that are not established to create profits. However one finding in connection with entrepreneurial creativity requires comment. This anchor was a negative predictor for potentials but lost its impact for longer service employees. It can be inferred that early career women may still be considering leaving the university sector in order to pursue alternative career paths such as starting their own business. If such notions are being entertained then motivation to produce publications would be low. A number of theorists noted that deciding whether to stay or leave is a typical early career challenge (Feldman, 1976; Schein, 1978; Wanous, 1980). The sooner certainty is reached about choosing an academic career the more likely younger women will focus on activities that will lead to promotion in the university.

In contrast, to entrepreneurial creativity, service was expected to be a positive predictor of career success and this proved to be the opposite. Although not expected to predict qualifications or publications it did not even correlate with involvement in community service. According to the results in this study, the idea that individuals who valued service or dedication to a cause as a career anchor (Schein, 1996) would be attracted to academic pursuits, is misguided.

## **Teaching evaluation and community service involvement**

These two subjectively reported objective career success indicators in the model were predicted only by motivational valence. This is the component of Vroom's (1964) motivation theory that explains individual motivation as effort directed towards activities that result in outcomes that have personal meaning for individuals. In this study motivational valence was examined as the value of being involved in university decision-making. It was therefore an unexpected finding that this would positively predict higher teaching evaluations and involvement in community service as these are often regarded as negative contributors to career advancement in academic circles (Bagilhole, 1993; West & Lyon, 1995).

## **Subjective career success**

Subjective career success was predicted positively by work centrality, self-efficacy and motivational expectancy. This finding supports that of Nabi (1999) who found a positive correlation between work centrality and the subjective career success of academics.

As stated earlier the amount of time spent at work correlated positively and significantly with the importance of work. Nearly 80% of the sample in this study reported working over 50 hours per week (29% claimed 70-plus hour working weeks). This suggests that academic roles could be classified as extreme work which Hewlett and Luce (2006) maintained was problematic for mothers due their home role. In this study the findings with respect to the relationship between hours worked and career success also supported earlier research which positively correlated work centrality (as indicated by work involvement) with subjective career success for women (Kirchmeyer, 2002).

Furthermore, the findings in this study lent support to earlier studies that found women felt successful if they had high work centrality (White, 1995) because work provided a sense of belonging and functioned as a strong source of identity (Schreuder & Theron, 1997). Ismail et al. (2004) identified work

centrality as a key success factor for academic women as did Harris et al., (1998) for all academics.

Subjective career success was also predicted positively by self-efficacy and motivational expectations. This supported findings by Kreitner and Kinicki (2001) who reported that self-efficacy positively influenced expectations and Dann (1995) identified expectations as critical to career success. If women thought that they were expected to play a strategic decision making role in the university, they felt that their careers were successful even if this was not reflected in the job level that they held. This study revealed that women academics who had high self-efficacy felt subjectively successful regardless of their job level (there were no differences in the self-efficacy of the organisational groups). This finding is consistent with earlier research that suggested that women held broader views of career success than men (Sturges, 1999); were more likely to integrate rewards from family life in their concept of career success (Kirchmeyer, 2002) and may have lower expectations of objective success than men (Dann, 1995).

Furthermore, Dann (1995) noted that women regarded themselves as successful when compared with other women (not men). Compared with women outside of academia in South Africa they may feel even more successful with less than one percent of the female South African population holding a Masters or Doctoral degree (Statistics SA, 2001). It should be noted that the self-efficacy examined in this study pertained to current positions. What was not explored was whether participants felt self-efficacious about assuming more senior positions than those currently held.

Subjective career success was predicted negatively by motivational valence. The higher the value placed on playing a strategic role in the university by participants in this study, the less successful they felt their careers had been. This finding may be a reflection of the skewed distribution of women throughout the job levels of the university sector with more women in the lower job levels. As Poole and Bornholdt (1998) identified, involvement in university decision-making is one of the rewards of the career. Thus if women value making



strategic decisions and they are not in a position (job level) to do so, they feel less successful.

### **EXAMINATION OF THE MODEL**

The final model was examined using three successive sample subsets. The following key findings from the model deserve comment:

- Race is not a determining factor in career success.
- Race combined with age (career stage) is not a determining factor in career success.
- Organisational groups, delineated by job level combined with length of service, provide the clearest indication of variables that determine career success.

#### **Race and career success**

The issue of race and career success is a highly sensitive one especially in South Africa where the inherited inequities of the past are frequently cited as reasons for the skewed distribution of individuals across organisational job levels. Although race is not explicitly linked to career success and no literature is available to support the contention, it is often postulated as an explanatory factor by lay persons. The finding in this study does not diminish or seek to minimise the importance of redress measures that require attention. Furthermore, the finding does not suggest that some individuals will not experience their university environments as hostile or unwelcoming. However, it does indicate that race alone is an insufficient explanation for differentiated levels of career success. When the model was examined comparing black and White women, no significant differences on any of the predicted paths could be identified. The implications of this finding are important because it means that in terms of the variables in this model (work centrality, self-efficacy, motivation and career anchors), universities intent on supporting the development of those

women academics who need it, need not differentiate the support provided on the grounds of race.

### **Race, age and career success**

Similarly, when the model was examined combining race with age (as a career stage indicator) as classification criteria, no differences between four groups: black early career; black mid-career; White early career and White mid-career women could be found. This is not to say that differences per variable do not exist. They do and are discussed later in this chapter. However in terms of the overall model, career success cannot be explained as a function of race or race and age combined.

To offer special development interventions to black women or to young women would assume a deficiency model that is not supported by the evidence in this study.

### **Job level, length of service and career success**

When the model was examined using organisational groups defined by job level and length of service, three distinct path differences emerged. Firstly, the more women had motivational expectancy, the more they felt successful (subjective success) and were in the promoted group (objective success).

Secondly, the more women from lower job levels (plateaued and potentials) valued autonomy as a career anchor, the more qualifications they earned but this relationship disappeared for the promoted group.

Thirdly the negative relationship between entrepreneurial creativity and publication output was significantly stronger for potentials (less than 10 years service) than longer service (over 10 years) women (plateaued and promoted).

The implications of these findings are that universities could consider devising differentiated career advancement strategies for different organisational groups.

Those women in the promoted group do not need development. They are already objectively successful, having reached the job level of Professor. They are also subjectively successful and fully expect to contribute to strategic decision-making in the university. Resources could be diverted to retaining and rewarding this group.

The potential group and the plateaued group may benefit from development interventions as discussed later.

### **GROUP DIFFERENCES PER VARIABLE**

When each variable was examined significant inter-group differences emerged that provide a more nuanced understanding of the results.

#### **Career Success**

It will be recalled that career success comprises both objective and subjective components.

##### ***Objective success***

White women in this sample held significantly more qualifications than black women and published more. No differences were found for teaching performance and black women engaged significantly more in their communities than White women. Within these broad findings career stage differences emerged with early career black women holding the fewest qualifications and publishing the least and White mid-career women outperforming all other groups against these criteria. However, it was the black, mid-career women specifically who scored higher than all other groups on community involvement.

The historical and research context of this study make these findings understandable. White, mid-career women, whilst disadvantaged when compared with men, historically have had the advantage of privilege in academia over black women. Black, mid-career women will have spent many of

their adult years employed under a discriminatory dispensation. According to Makosana (1997) who researched the positioning of black women in South African universities the intersecting effects of gender, race and class differentiated the experiences of Black women in South Africa. It is possible that such experience may have encouraged higher socially responsible behaviour than that observed amongst more privileged groups. Furthermore, highly-educated black women were (and still are) in the minority within their communities. Consequently the Black African tradition of ubuntu which includes caring for others may be demonstrated via this career behaviour. The belief that oppression encouraged community resilience and cohesion was promulgated by Sonn and Fisher (1998, p. 465) who argued that such experiences may have "provided the contexts in which people could have positive experiences of belonging and develop a positive sense of individual and collective identity" that moderated the impact of oppression. They found specifically that during *apartheid*, when communities were divided on the grounds of race, mediating structures such as schools, churches and family networks within the community provided opportunities for people to experience security, stability, belongingness, and psychological relatedness.

It is notable that this finding did not apply to black, early-career women who have worked within a more equitable dispensation. This suggests that this behaviour (community involvement) may be ascribed to circumstance rather than race. Or it could be ascribed to career stage. Another explanation for the higher community involvement of mid-career women over early career women may be found in Erikson's (1963) theory of adult development. He postulated that the key development issue for midlife individuals was generativity as manifested in the caring for others.

Leaving aside the differences in historical advantage, it was clear that those women academics who had published more and obtained more qualifications, held higher job levels in their universities. Caplan (1995) would have explained this via one of her identified myths that she believed should be dispelled if women want to advance in the university system: that university authorities really want academics to "do service, teaching and research in equal amounts"

and that all three will carry equal weight when promotion is considered (Caplan, p. 53). She suggested that in order to advance within universities women should take the old dictum: "publish or perish", more seriously.

### ***Subjective career success***

Although less concrete than objective career success, subjective career success provides insight into how the individual feels about their career success or lack thereof.

White women felt more successful than black women and black, mid-career women felt the least successful of all four demographic groups. This result is understandable when considered in conjunction with the fact that motivational valence negatively predicts subjective career success. Black women valued making strategic decisions more than White women and fewer black women than White held the professorial job level.

As reported earlier, like the study by Nabi (1999), subjective career success was positively and significantly correlated to job level for this sample. Therefore the results of the organisational groups were expected. The promoted, who were located among the professorial job levels, reported more subjective career success than potentials who reported feeling more successful than the plateaued.

Again the subjective career success of the promoted and plateaued groups can be understood in light of Erikson's (1963) central crisis of generativity. Furthermore, Slater (2003) expanded the concept of generativity to argue that midlife individuals need to resolve the psychosocial conflicts of career productivity versus inadequacy and responsibility versus ambivalence. Both of these crises could relate to a sense of lowered subjective career success if one's career had plateaued. It was reasoned that the potentials will perceive their careers as still possessing growth opportunities and were thus fairly satisfied with their perceived success to date.

## **Work centrality**

The results supported the findings of Nabi (1999) who noted a link between work centrality and subjective career success but not objective career success amongst academics. In this study there were no differences in the work centrality of black and White women but White early career women had significantly lower work centrality than mid-career White women (age does appear to affect work centrality for black women).

When viewed from an organisational standpoint, the promoted women placed more value on work centrality than other organisational groups. This result supported earlier research that linked high work centrality with career success (Harris et al., 1998; Ismail et al., 2004; White, 1995). The women in the plateaued group had lower work centrality than those who had been promoted. This confirms the finding of Nachbagauer and Riedl (2002) who reported that academics whose careers were content plateaued worked fewer hours.

## **Self-efficacy**

No differences were found between black and White women when only race was taken into consideration. However when the four groups were compared, White, early career women reported significantly lower self-efficacy than the other three groups. This finding is direct contrast to that of Martin-Cairncross (2005) who reported that black women academics reported low self-confidence and self-belief specifically with respect to publishing. This is an important contradiction because she argued that low levels of self-confidence were a function of prior educational experiences and an absence of institutionalised staff development programmes to teach research skills. Results from the current study suggest otherwise and raise questions about why early career White women who have arguably had the best of both worlds (good education and employment under an equitable dispensation) would feel the lowest occupational self-efficacy. It is worth noting that Makosana (1997) argued that Black women in South Africa defined success more by what they had overcome, rather than what they had achieved. Such a definition certainly

suggests high self-efficacy and underpins Bandura's (1997) contention that self-efficacy helps individuals to overcome challenges.

No significant differences in self-efficacy were found between the three organisational groups which indicated that even those whose careers had apparently plateaued, believed that they were capable of career success. This could account for the positive relationship between self-efficacy and subjective career success. Even women whose careers had plateaued still felt successful. This self-belief is similar to the findings of Gerdes (2003) who said women academics reported that despite their setbacks they did not feel powerless about their situation.

The encouraging fact about this finding from an organisational viewpoint was that none of the organisational groups reported a lack of self-efficacy. Since self-efficacy has been linked to workplace performance (Bandura, 1977; Betz, 1992; Sullivan & Mahalik, 2000), this finding suggests that both the potentials and the plateaued enjoy a level of self-belief that could be harnessed towards career development.

## **Motivation**

### ***Expectancy***

There were no differences in expectancy between black and White women. Similarly, the early and mid-career groups did not differ with respect to their expectations of participating in strategic decision-making.

However, those women who had been promoted felt that they were expected to participate in strategic decisions significantly more than the plateaued or potential groups. This finding supported earlier research that revealed that often women did not succeed because they perceived or displayed lower expectations of objective success (Dann, 1995). It was not clear from this study whether the promoted group believed that this expectation was as a consequence of their job level or the other way around, that is, whether they

rose to their higher job level because they felt compelled to participate and thus got noticed.

### **Valence**

Black women placed more value on playing a strategic decision-making role than White women. Early career White women were the least interested of all participants in this aspect.

An interesting result related to this variable was that both the promoted group and the plateaued group placed a high value on this career issue (unlike the potentials). From an organisational perspective this finding is promising because the plateaued group can be classified as either productively plateaued (pro-active individuals who still derive job satisfaction from their current job) or partially plateaued (experts who remain involved in their jobs but regard the organisation as uninterested in them) (Leibowitz et al., 1990). Both categories include individuals who still have much to offer an organisation (unlike the incurious or complacent individuals included in the pleasantly- and passively-plateaued groups).

### **Career Anchors**

When the results of the career anchors that were included in the model were analysed for group differences a few distinctions emerged. Black women valued service more than White women. This difference has already been examined when community service involvement was discussed.

White women valued autonomy more than black women. This could add to explanations of why fewer black women held higher positions than White women because it has been noted that autonomy was a positive predictor of qualifications and publications.

Career stage had no impact on the career anchors. Similarly, no clear indication of preferred career anchors emerged for the three organisational



groups. This was unexpected as it was thought that career anchors would offer clear reasons why some women had more successful careers than others.

### **EXCLUDED VARIABLES**

The variables excluded from the final model offer insight into issues that, despite popular contention, did not impact on career success in this study. Key findings were:

- Care-giving responsibilities did not have a significant impact on work centrality.
- Career anchors were not as influential on career success as previously thought.
- Opportunity as a motivation variable did not have a significant impact on career success.

#### **Personal circumstances**

It was hypothesised that care-giving responsibility would have a negative impact on work centrality and consequently on career success. This hypothesis was not supported by the data. Over 80% of the sample reported care-giving responsibilities of others. In this study there was a direct and positive correlation between care-giving responsibilities and job level. As stated earlier, women who had partners had more care-giving responsibilities, more domestic responsibilities and were more likely to be primary household breadwinners than women without partners.

This is an important result because it suggests that popular notions that women without partners and/or children are more successful than those who are supposedly distracted by family demands are unfounded. In fact this finding lends credence to the notion that positive spillover occurs over from one role to the other, thus enriching careers and increasing the chance of success (Greenhaus & Powell, 2006).

The results support other studies that found women bearing primary domestic responsibility despite having full-time employment outside of the home (Budlender, 2002; Hughes & Galinsky, 1994; Phillips & Imhoff, 1997; van Doorne-Huiskes, den Dulk and Schippers 1996).

Of the four demographic groups, black mid-career women had more care-giving responsibilities than any of the other three groups. This is consistent with the national statistics that reflect Black women being more likely to head households than White women (Statistics SA, 2003). White, early career women had the least care-giving responsibilities. No differences were found between any of the three organisational groups, including the promoted that appear to manage successful careers whilst having partners and children.

Although women may have care-giving responsibilities they also have social structures in place that assist with these duties. In a study of family size and children's education in South Africa, Yao Lu (2005) identified distinct differences in family structure and size between Black and White family units. She observed that Black families have extended networks of relatives who care for children, unlike White families who have nuclear family units. Extended families are based on a value system that emphasises interdependence and collectivism unlike the individualism that characterises nuclear families (Lu). Furthermore, affordable domestic help is readily available. Hertz (2005) reported that over 1.25 million people (mainly women) are employed as domestic workers in South Africa. Their average working week consists of 40 hours and they are required by law to have a written contract that stipulates their rights to paid leave, severance pay, and notice prior to dismissal (Hertz). In 2002, the national average monthly wage for full-time domestic staff was R754 (+/- \$100 at 2007 exchange rates)<sup>2</sup> (Hertz; South Africa, 2002).

In this study traditional care-giving responsibilities did not have a significant impact on the career success of academic women. From an organisational perspective, this finding suggests that interventions such as providing child care

---

<sup>2</sup> This has increased by 8% p.a. since 2002 in accordance with state legislation making the current estimated average monthly wage \$146.93

facilities on campus may be worthwhile for administrative support staff but does not appear to be required for academics. Women in this sample were either managing care-giving equally well regardless of their job level as suggested by White (1995) or obtaining outside help with this responsibility as proposed by Cook (1993). In particular the results supported the findings of White who noted that in addition to having high work centrality, successful women also work continuously and fit domestic responsibilities around work.

### **Career anchors**

Some of the results about career anchors were unexpected. Popular academic opinion places a high value on career anchors as critical indicators of the context in which individuals will succeed or find job satisfaction. Yet in this study career anchors did not emerge as strong indicators where expected. It was reasoned that academics by any popular definition could be considered experts in their field therefore technical/functional competence or the desire to be recognised for one's knowledge would have been likely predictors of academic career success. Similarly, the value placed on overcoming challenges was thought to be a likely positive predictor for success in this sector. Yet neither anchor emerged as a significant predictor. It was also reasoned that those women who had reached higher job levels might value general managerial competence but again this was not the case.

One further career anchor, lifestyle, was thought to predict career success negatively because of its accommodation of home commitments. Although negative, the strength of association was too weak for inclusion in the model. As discussed under personal circumstances, it would appear that in the past researchers have erroneously postulated causality between familial demands and career success. It is not the bearing of children and having care-giving responsibility per se that affects career success but rather whether or not this set of personal circumstances affects an individual's career anchor.

## **Opportunity**

No support was found for the hypotheses that motivational opportunity would predict career success however, differences did occur among the groups. White early career women perceived the fewest opportunities to engage in university structures. This is the same group that reported the lowest occupational self-efficacy. Women who held higher job levels in the sector perceived distinctly more opportunities in the university to network and gain access to information. This finding is consistent with earlier research that linked career success with access to opportunity structures (Astin, 1984; Burke & Mc Keen, 1994; Nabi, 2003; Siebert et al., 2001). As with motivational expectancy, it was not clear whether the opportunities or the promotions came first, although Pietersen and Engelbrecht (2005) clearly suggested that access to opportunities was critical for advancement.

## **LIMITATIONS AND FURTHER RESEARCH**

The limitations of this study include the research design, inherent limitations of structural equation modelling, model specification and the sample.

Firstly, a primary limitation of this study is the fact that data were collected at a single point in time. The implications of this are simply, that a snapshot view of the career variables was offered by each participant at the time of data collection. This cross-sectional approach was unavoidable due to time constraints imposed upon the study. Possibly, a longitudinal study, where a group of participants is tracked as their careers progress may lead to more exacting results around their career success.

Secondly, structural equation modelling has inherent limitations in that directional relationships cannot be tested. Arrows in a structural equation model represent the hypothesised causality. Furthermore, the choice of variables used will always limit the model's ability to recreate reality. However, SEM is still considered to be a useful approach in understanding relational data because of

its ability to distinguish between indirect and direct relationships between variables without random error.

Thirdly, the model specification and evaluation in the present study followed the strategy of model generation "wherein an initial model is fit to data and then modified as necessary until it fits adequately" (Maccallum & Austin, 2000, p. 216). Since the resulting model was in part data driven, two conditions had to be met: Firstly, the modification in the model had to be defensible and secondly, the modified model should be evaluated ideally by fitting it to an independent sample. The present study met the first but not the second condition. The study would have been enhanced if the final model had been tested with an independent sample of female academics. This provides an opportunity for further research.

Finally, the sample only included women. Whilst this was the intended focus of the study it would be interesting to examine the model using a male sample to investigate whether the same variables predict their career success. Further research in this area could be considered.

Another area for future research could include investigation among the exogenous variables in this study. It would be interesting to examine if for example, subjective career success is a predictor of objective career success.

Further research could examine the transferability of the model to other countries. Due to the specific nature of the objective success indicators the model is unlikely to be useful in other sectors (a further limitation of this study) but it may be of interest in other academic contexts.

## **CHAPTER 10**

### **STRATEGIES FOR EXCELLENCE**

#### **UNIVERSITIES**

This study has implications for staff policies at universities. Although individuals should take personal responsibility for their career success, it is in the interests of universities as employing organisations, to provide an enabling environment for such success to be achieved. If universities are as serious about gender equity as they claim, then conscious career management strategies may acknowledge successful women and facilitate the attainment of equity targets.

#### **Psychological contracts and budgets**

Consideration could be given to two primary issues that underpin career management strategy: the psychological contract and budget allocation. With the structural transformation of higher education in South Africa now completed, it may be an appropriate time for university management to turn attention to renegotiating psychological contracts with staff. The psychological contract makes explicit what is often assumed by each party and if mutual agreement is not reached, results in unmet expectations and disillusionment. The transformed South African higher education work environment created by the intersection of new managerialism, a restructured landscape and legislation aimed at redressing past inequality, provides an ideal opportunity for revised psychological contracts to be mapped and mutually concluded. If an emphasis on research productivity and financial sustainability is an accepted institutional strategy, then fair, objective and realistic criteria for performance, advancement and reward need to be developed and communicated to staff.

Staffing budgets, aligned in support of strategic intent, would facilitate the implementation of career management strategies. Apart from salary budgets, dedicated funding for staff career advancement is accessible in every

university. In South Africa, all organisations are required by the Skills Development Levy Act, No. 9 (1999) to pay an amount equivalent to one percent of the total annual payroll to the state, 80% of which can be reclaimed provided it is spent on staff development interventions (Nel, van Dyk, Haasbroek, Schultz, Sono & Werner, 2004). Therefore, even cash-strapped universities have access to significant amounts of money to reward and advance the careers of staff if they so wish.

### **Differentiated strategies**

Academic women are not a homogenous group. As de la Rey (1999, p. 217) noted in her study of women professors "...there is no one story of being a woman academic in South Africa..." Career management strategies can only begin to be designed once individual career stages and career success to date have been taken into consideration. Early career women are faced with specific challenges that include adjusting to workplace demands, deciding whether to stay or leave, establishing their reputation in the organisation and deciding if and when to have children. In this study these individuals were primarily located in the organisational group called potentials. Career success for this group has yet to be achieved.

In contrast, mid-career women are challenged, inter alia, by the career issues of staying abreast of current developments in their field, sustaining excellence, re-evaluating career choices and nurturing others. In this study these individuals were found in two groups, the promoted who have achieved career success and the plateaued who by the definition used in this study, have not.

The distinct difference in career success of these three groups requires differentiated career management strategies underpinned by different psychological contracts.

### **Promoted: Sustain excellence**

The model of successful academic women that emerged from this study showed them to be professors who had high work centrality, believed in themselves, valued working autonomously, expected to make strategic decisions in their universities, saw opportunities to do so and valued such roles. They also had care-giving responsibilities.

These women have proven that they are capable of advancing within the system. As stated earlier, women in this group do not need development. Rather they require recognition and dedicated resources to continue pursuing their fields of expertise. Consequently the focus of the psychological contract between the university and members of this group would be to sustain excellence. The content of the contract for this group from the university's perspective, would acknowledge their success, maintain excellence, retain their expertise and reward their performance. At the same time the university could expect at least maintained and even increased levels of performance.

Sustained research output is fundamental to the continued success of this group. An aggressive strategy to provide financial support for research interests and to facilitate access to significant research grants is required. Targeted efforts to ensure that these women scholars become NRF A, B and C-rated scientists (see Appendix E for definition) and are amply rewarded for it would boost their visibility and increase opportunities for international recognition as scholars. Suitable rewards for this group include ad hominem promotions, sabbatical leave and opportunities to work at international universities as visiting scholars. Universities could establish and support robust staff exchange programmes in order to sustain excellence. Women academics located in this group provide a pool from which senior university management could be drawn. Furthermore, it is this group that provides the ideal role models for aspirant professors. Bandura (1997) argued that vicarious learning and exposure to role models were powerful motivators for building self-efficacy. Therefore less successful women would benefit from exposure to those who have been



promoted. If such contact is formally established via mentoring networks or public profiling of professors, then professors could be rewarded accordingly.

University budgets contain funds to support strategic human resource imperatives, one of which is the reward and retention of active scholars and researchers. In a country like South Africa this intent must be balanced with the imperative to devote resources to the development of future scholars. Therefore, allocation of 30% of the career management budget to sustain excellence among the promoted group would be appropriate.

#### **Plateaued: Stimulate excellence**

The women classified in this group have more than 10 years service and their careers have reached a plateau. Collectively they are likely to be experienced and well-versed in the nuances of the higher education sector. However their careers have stalled. As a group they do not produce sufficient research outputs, feel less successful, have the lowest work centrality and hold few expectations about making strategic decisions. On the positive side they feel self-efficacious and would like to be included in strategic decision-making structures which suggest that they still have continuance commitment. The focus of the psychological contract between the university and members of this group would be to stimulate excellence and re-energise those who seek a pathway out of this position. The content of the psychological contract would acknowledge that historical impediments to career advancement existed for some in this group, stimulate their belief in themselves and their careers, make explicit what is required to move out of this group and involve them in issues that affect the university.

A number of specific strategies could be employed by universities to create career paths out of the plateaued group but first the nature of plateaus (structural or content) requires identification. The university could establish if there are any structural impediments to the success of this group within the university that could be removed, such as blatant discrimination. For example, if there are women scholars, holding PhDs, publishing regularly and being

overlooked for promotion, then they should not still be in this organisational group. If however the plateau is content in nature then the onus for re-energising the career shifts towards individuals.

As stated earlier, university staff in the Nachbagauer and Niedl (2002) study whose careers had plateaued did not expect promotion and were more concerned about having an interesting job. University organisation structures limit linear (Brousseau, 1990) progression to positions such as department head or dean. Some universities also limit the number of individuals who reach the level of professor even if the research record is satisfactory. However, universities typically do not limit spiral (Brousseau) career patterns which provide opportunities to ameliorate content plateauing.

As Rousseau (2001) noted access to accurate, unbiased information was critical to achieving mutual agreement in the psychological contract. Individuals whose careers have genuinely plateaued need explicit indications from the university about career prospects. They need to be informed of the new realities of academic career advancement opportunities which require a minimum of a PhD. Then they can make decisions about whether to stay in academia and get ahead, move to a support function in the university that does not require higher academic qualifications or move out of the sector altogether.

If they decide to stay the universities could develop specific plans to enable staff to improve their qualifications. According to Williams and Savickas (1990) updating knowledge is a classic mid-life career challenge. Interventions could include: sabbaticals with specific employment conditions attached such as tenure commitments equal to time on sabbatical or leave sacrifice if thesis is not completed; dedicated funding for research activities and facilitating recognition as an L-rated researcher. This rating category was specifically introduced by the NRF to draw an increased number of researchers with potential from disadvantaged backgrounds as well as women into research. It accommodates those who left the sector to raise families. However to achieve an L-rating the university has to "have demonstrated its financial commitment

towards a development strategy for the staff member concerned" (NRF descriptor document, see Appendix E).

In terms of financial support for further qualifications, the NRF bursaries for full-time study provide insufficient resources if women have typical mid-life responsibilities. Universities allow full-time students to perform some work but often their policies restrict annual income. Universities could consider revising these policies to allow bursary holders to earn more money in a given academic year.

Clear, consistent messages about what the university expects from staff and what it is prepared to offer in return need to be relayed. This can be communicated through raising awareness of who is rewarded, what is rewarded and how success is celebrated. Individuals with stable psychological contracts struggle to change them unless motivated by rewards. Suitable rewards for this group include recognition strategies such as promotions, invitations to serve on decision-making bodies within the university and opportunities for secondment across academic and administrative boundaries. It is highly likely that not all members of the plateaued group will take advantage of career development strategies. The university should focus on those who are sufficiently committed to advance their careers. Therefore 20% of the career management budget should be allocated to stimulating excellence among this group.

#### **Potentials: Establish excellence**

The women in this group have less than 10 years experience and are establishing their careers in higher education. Still in the early career phase, the university could take active steps to ensure that they become members of the promoted group and not the plateaued group by engaging them in a psychological contract with a focus on establishing standards for excellence. This group, more than any other, would benefit from conscious career planning so that they do not arrive in the mid-career stage with a collection of default career experiences.

Women in this group are mainly under 35 years of age, they feel more successful than those in the plateaued group but they have the fewest qualifications and publications and some lack self-efficacy. At this stage they do not expect to make strategic decisions in the university. The primary career management strategy for this group would be a singular focus on obtaining a PhD. Once the PhD has been obtained attention could turn to facilitating access to resources such as funding and mentorship in support of building a research and publication record.

The focus and content of the psychological contract needs to be conveyed as early as the recruiting and hiring process because information processing and expectations of the future work environment are formed long before individuals actually join an organisation. If the university is recruiting from within, then post-graduate students could be a target group of potentials with a new psychological contract.

Universities could consider fully sponsoring full-time PhD students as staff members with equivalent period employment contractual obligations attached (they would be obliged to work for the university for a period of time equal to the time spent as a sponsored PhD student). Universities could provide access to opportunities to network and interact with role models from the promoted group and lower teaching loads to enable individuals to complete their PhD. Particular (but not exclusive) attention should be paid to those individuals who hold autonomy as their primary career anchor as this was a positive predictor of objective career success for this group in this study. Those who hold entrepreneurial creativity as a career anchor could consider leaving the university or moving to a department that functions as a profit centre within the university.

Targeted research support activities and facilitating rating as a P or Y-rated researcher (see Appendix E for definition) would be highly desirable. Some universities have started "emerging researcher" programmes that are proving highly successful at increasing the publication output of potentials. These could

be expanded in the sector with inter-university exchanges taking place. An annual national conference for emerging researchers (women and men) could provide a platform for showcasing the research of individuals who obtained their PhD within the last five years. This could be supplemented with an annual peer reviewed journal for emerging researchers only. An editorial board consisting of experienced and emerging researchers would create a space for editorial skill transference. These interventions would raise the profile of emerging researchers and send a clear message about what the sector values and how careers could be advanced. This information would strengthen the psychological contract of this group and make explicit what constitutes career success and how it can be achieved.

Appropriate rewards for this group would include cash incentives to complete a PhD, promotions, public recognition, invitations to join international research teams and rotational opportunities to serve on the editorial board of a journal for emerging researchers. As these individuals will constitute the future scholars of South Africa, 50% of staff development and reward budgets should be dedicated to activities that establish excellence and enhance the careers of this group.

## **INDIVIDUALS**

Universities can only provide an enabling environment for career success. Ultimately the primary responsibility for personal career management rests with each individual. In the beginning of this thesis, questions were posed about how some women managed to succeed in a sector known for patriarchal dominance. What, if anything, made them special and had they had to make sacrifices to be successful?

It is not uncommon for women to argue that organisational cultures must change before genuine gender equity is achieved. This may or may not be true. If true, a long-term, prolonged intervention would be required. However, the reality is that it is possible for women to advance within the current dispensation. Now more than ever in South Africa, legislated opportunity

structures favour women's careers. Women academics who are serious about staying in higher education and advancing their careers, need to take personal responsibility for ensuring their success and become aware of career success predictors. They could start by identifying their career anchors, work centrality, self-efficacy and motivation to be involved in university decision-making. They could focus their energy towards producing research outputs and refuse work assignments that detract from research activities. They could look for, expect to find and seize opportunities to contribute to strategic decisions in their universities. They do not have to sacrifice family life. In short, they could start emulating those "special" women who have achieved academic career success.

University of Cape Town

## REFERENCES

- Adamson, S. J. (1997). Career as a vehicle for the realization of self. *Career Developmental International*, 2, 5, 245-253.
- Adamson, S. J. & Doherty, N. (1998). The meanings of career revisited: Implications for theory and practice. *British Journal of Management*, 9, 4, 251-260. Retrieved March 3, 2005 from the Business Source Premier database.
- Antonucci, T. C. & Akiyama, H. (1997). Concern with others at midlife: Care, comfort or compromise? In M. E. Lachman & J. B. James (Eds.), *Multiple Paths of Midlife Development* (pp. 147-169). Chicago: University of Chicago Press.
- Aryee, S., Chay, Y. W. & Tan, H. H. (1994). An examination of the antecedents of subjective career success among a managerial sample in Singapore. *Human Relations*, 47, 5, 487-500. Retrieved June 24, 2006, from the Infotrac database.
- Astin, H. S. (1984). The meaning of work in women's lives: a sociopsychological model of career choice and work behaviour. *The Counselling Psychologist*, 12, 4, 117-126.
- August, R. A. & Quintero, V. C. (2001). The role of opportunity structures in older women workers careers. *Journal of Employment Counselling*, 38, 2, 62-82. Retrieved September 30, 2003 from the Academic Search Premier database.
- Babbie, E. & Mouton, J. (Eds.). (2001). *The practice of social research*. Cape Town: Oxford University Press.
- Bagilhole, B. (1993). Survivors in a male preserve: A study of British women academics' experiences and perceptions of discrimination in a UK University. *Higher Education*, 26, 4, 431-477.
- Bagilhole, B. (2000). Too little too late? An assessment of national initiatives for women academics in the British university system. *Higher Education in Europe*, 25, 2, 139-145.
- Bagozzi, R. P. & Baumgarten, H. (1994). The evaluation of structural equation models and hypothesis testing. In R. P. Bagozzi (Ed.), *Principles of Marketing Research* (pp. 386-422). Cambridge, Mass: Blackwell.
- Bandura, A. (1977). Self-efficacy: Towards a unifying theory of behavioral change. *Psychological Review*, 84, 2, 191-215.
- Bandura, A. (1997b). *Self-efficacy: the exercise of control*. New York: W.H. Freeman & Co.
- Barrett, R. C. (1997). Gender, employment and psychological well-being: historical and life-course perspectives. In M. E. Lachman & J. B. James (Eds.), *Multiple Paths of Midlife Development* (pp. 325-343). Chicago: University of Chicago Press.
- Barnett, R. C. & Brennan, R. T. (1994). Gender and the relationship between marital-role quality and psychological distress. *Psychology of Women Quarterly*, 18, 1, 105-128. Retrieved June 14, 2004 from the Academic Search Premier database.
- Bejian, D. V. & Salomone, P. R. (1995). Understanding midlife career renewal: Implications for counseling. *Career Development Quarterly*, 44, 1, 52-64. Retrieved May 10, 2004 from the Business Source Premier database.
- Benter, P. M. & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods and Research*, 16, 1, 78-117.
- Bentler, P. M. (1980). Multivariate analysis with latent variables: Causal modeling. *Annual Review of Psychology*, 31, 419-456.

- Betz, N. E. (1992). Counseling uses of career self-efficacy theory. *Career Development Quarterly*, 41, 1, 22-27. Retrieved June 16, 2004, from the Business Source Premier database.
- Betz, N. E. (2002). Explicating an ecological approach to the career development of women. *Career Development Quarterly*, 50, 4, 335-338. Retrieved May 11, 2004, from the Business Source Premier database. .
- Betz, N. E. & Fitzgerald, L. F. (1987). *The career psychology of women*. Florida: Academic Press, Inc.
- Blackmore, J. & Sachs, J. (2000). Paradoxes of leadership and management in higher education in times of change: Some Australian reflections. *International Journal of Leadership in Education*, 3, 1, 1-16.
- Bonaiuto, M., Aiello, A., Perugini, M., Bonnes, M. & Ercolani, P. (1999). Multi-dimensional perception of residential environment quality and neighbourhood attachment in the urban environment. *Journal of Environmental Psychology*, 19, 331-352.
- Bonett, R. H., & Stickel, S. A. (1992). A psychometric analysis of the career attitude scale. *Measurement & Evaluation in Counselling & Development*, 25, 1, 14-27. Retrieved February 25, 2006 from MasterFILE Premier database.
- Botha, J. (2005). The study of the New Testament in African universities. In C. Breytenbach, J. C. Thom & J. Punt (Eds.), *The New Testament interpreted: Essays in honour of Bernard C. Lafegan*. Leiden, Netherlands: E.J. Brill.
- Brousseau, K. R. (1990). Career dynamics in the baby boom and baby bust era. *Journal of Organisational Change Management*, 3, 3, 46-58.
- Budlender, D. (2002). *Women & Men in South Africa*. Pretoria: Statistics South Africa.
- Burke, R. J. & Mc Keen, C. A. (1994). Training and development activities and career success of managerial and professional women. *Journal of Management Development*, 13, 5, 53-63.
- Burke, R. (1999). Are families a career liability? *Women in Management Review*, 14, 5, 159-163. Retrieved April, 27, 2007 from the Emerald database.
- Burke, W. W. (2002). *Organization Change: theory and practice*. Foundations for Organizational Science. California: Sage.
- Burr, V. (1998). *Gender and Social Psychology*. London: Routledge.
- Byrne, B. M. (2001). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Byrne, B. M. (2004). Testing for Multigroup Invariance Using AMOS Graphics: A road less travelled. *Structural Equation Modeling*, 11, 2, 272-300.
- Callanan, G. A. (2003). What price career success? *Career Development International*, 8, 3, 126-133. Retrieved March 22, 2006, from the Emerald database.
- Caplan, P. (1995). *Lifting a ton of feathers: A woman's guide for surviving in the academic world*. Canada: University of Toronto Press.
- Carson, K. D., & Bedeian, A. G. (1994). Career commitment: Construction of a measure and examination of its psychometric properties. *Journal of Vocational Behavior*, 44, 237-362.



- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4, 1, 62-83.
- Choi, N. (2004). Sex Role Differences in Specific, Academic and General Self-Efficacy. *Journal of Psychology*, 138, 2, 149-160. Retrieved February 25, 2006 from the MasterFILE Premier database.
- Collin, A., & Young, R. A. (1986). New directions for theories of career. *Human Relations*, 39, 837-853.
- Cook, E. P. (1993). The gendered context of life: Implications for women's and men's career-life plans. *Career Development Quarterly*, 41, 3, 227-238. Retrieved June 16, 2004 from the Business Source Premier database.
- Cook, E. P. (1994). Role salience and multiple roles: A gender perspective. *Career Development Quarterly*, 43, 1, 85-96. Retrieved June 16, 2004 from the Business Source Premier database.
- Cooper, D. & Subotsky, G. (2001). *The skewed revolution, trends in South African Higher Education 1988 – 1998*. South Africa: Education Policy Unit, University of the Western Cape.
- Council on Higher Education. (2001). *Council on Higher Education Annual Report 2000/2001*. Pretoria: Council on Higher Education.
- Dan, A. J. & Bernhard, L. A. (1989). Menopause and other health issues for midlife women. In S. Hunter & M. Sundel (Eds.), *Midlife myths: issues, findings and practical implications* (pp. 51-66). California: Sage Publications.
- Dann, S. (1995). Gender differences in self-perceived success. *Women in Management Review*, 10, 8, 11-18. Retrieved June 24, 2006 from the Emerald database.
- Dean, R. A. (1982). Reality shock: The link between socialization and organizational commitment. *Journal of Management Development* 2, 3, 55-72.
- de la Rey, C. M. (1999). Career narratives of women professors in South Africa. Doctoral dissertation. University of Cape Town, South Africa.
- Dolezalek, H. (2007). Got high potentials? *Training*, 44, 1, 18-22. Retrieved May 6, 2007 from the Business Source Premier database.
- Drew, E. & Murtagh, E. M. (2005). Work/life balance: senior management champions or laggards? *Women in Management Review*, 20, 4, 262-278. Retrieved April 27, 2007 from the Emerald database.
- Dubin, R. (1992). *Central life interests: Creative individualism in a complex world*. New Brunswick, New Jersey: Transaction.
- Dyk, P. H. & Adams, G. R. (1990). Identity and intimacy: An initial investigation of three theoretical models using cross-lag panel correlations. *Journal of Youth and Adolescence*, 19, 2, 91-110. Retrieved August 09, 2007 from the PsycARTICLES database.
- Ellison, J. A. & Schreuder, A. M. G. (2000). The relation between career anchors, occupational types and job satisfaction of midcareer employees. *Journal of Industrial Psychology*, 26, 2, 1-6.
- Erikson, E. H. (1963). *Identity: youth and crisis*. London: Faber & Faber.

- Evans, K. & Heinz, W. (1995). Flexibility, learning and risk: Work, training and early careers in England and Germany. *Education + Training*, 37, 5, 3-11. Retrieved April 27, 2007 from the Emerald database.
- Farmer, H. S. (1985). Model of career and achievement motivation for women and men. *Journal of Counseling Psychology*, 32, 3, 363-390. Retrieved October 9, 2006, from the PsycARTICLES database.
- Farmer, H. S. (1997). *Diversity and women's career development*. California: Sage.
- Feldman, D. C. (1976). A contingency theory of socialisation. *Administrative Science Quarterly* 21, 433-451.
- Feldman, D. C. & Bolino, M. C. (1996). Careers within careers: Reconceptualizing the nature of career anchors and their consequences. *Human Resource Management Review*, 6, 2, 89-112.
- Gerdes, E. P. (2003). The price of success: Senior academic women's stress and life choices. *Advancing Women in Leadership Journal*, 13. Retrieved May 20, 2003 from [www.advancingwomen.com](http://www.advancingwomen.com)
- Gergen, M. M. (1990). Finished at 40. *Psychology of Women Quarterly*, 14, 4, 471-494. Retrieved May 11, 2004 from the Academic Search Premier database.
- Glass, A. (2007). Understanding generational differences for competitive success. *Industrial and Commercial Training*, 39, 2, 98-103.
- Gordon, J. R. & Whelan-Berry, K. S. (2004). It takes two to tango: An empirical study of perceived spousal/partner support for working women. *Women in Management Review*, 19, 5, 260-273. Retrieved April 27, 2007 from the Emerald database.
- Gould, R. L. (1978). *Transformations: Growth and Change in Adult Life*. New York: Simon & Schuster.
- Greenhaus, J. H. & Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of Management Review*, 31, 1, 72-92.
- Grzywacz, J. G. & Bass, B. L. (2003). Work, family and mental health: Testing different models of work-family fit. *Journal of Marriage and Family*, 65, 1, 248-261. Retrieved April 29, 2007 from the Blackwell Synergy database.
- Hackett, G. & Betz, N. E. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, 18, 3, 326-339.
- Hair, J. F., Babin, B., Money, A. H. & Samouel, P. (2003). *Essentials of business research methods*. United States of America: John Wiley & Sons.
- Harris, P., Thiele, B. & Currie, J. (1998). Success, gender and academic voices. Consuming passion or selling the soul? *Gender & Education*, 10, 2, 133-149. Retrieved February 13, 2006 from the Academic Search Premier database.
- Helson, R., Elliott, T. & Leigh, J. (1990). Number and quality of roles: A longitudinal personality view. *Psychology of Women Quarterly*, 14, 1, 83-101. Retrieved May 11, 2004 from Academic Search Premier.
- Herek, G.M. (1997). *An introduction to sampling*. Retrieved November 12 2007 from [http://psychology.ucdavis.edu/rainbow/html/fact\\_sample.html](http://psychology.ucdavis.edu/rainbow/html/fact_sample.html)

- Herr, E. L. (2001). Career development and its practice: A historical perspective. *The Career Development Quarterly*, 49, 196-211.
- Hertz, T. (2005). The effect of minimum wages on the employment and earnings of South Africa's domestic service workers. (Working paper), Department of Economics, American University and W.E. Upjohn Institute for Economic Research. Retrieved July 29, 2007 from [www.upjohn.org/publications/wp/05-120.pdf](http://www.upjohn.org/publications/wp/05-120.pdf)
- Hewlett, S. A. & Luce, C. B. (2006). Extreme jobs: The dangerous allure of the 70-hour workweek. *Harvard Business Review*, 84, 12, 49-59. Retrieved August 1, 2007 from the Business Source Premier database.
- Hollis-Sawyer, L. A. (2003). Mother-daughter eldercare and changing relationships: A path-analytic investigation of factors underlying positive, adaptive relationships. *Journal of Adult Development*, 10, 1, 41-52. Retrieved May 19, 2004 from the Academic Search Premier database.
- Hoyle, R. H. & Panter, A. T. (1995). Writing about structural equation models. In R. H. Hoyle (Ed.), *Structural equation modelling: Concepts, issues, and applications*, (pp. 158-176). California: Sage.
- Huffman, S. B. & Myers, J. E. (1999). Counseling women in midlife: An integrative approach to menopause. *Journal of Counseling and Development*, 77, 3, 258-267. Retrieved May 11, 2004 from the Academic Search Premier database.
- Hughes, D. L. & Galinsky, E. (1994). Gender, job and family conditions, and psychological symptoms. *Psychology of Women Quarterly*, 18, 2, 251-271. Retrieved June 14, 2004 from the Academic Search Premier database.
- Hunter, S. & Sundel, M. (1989). Introduction: An examination of key issues concerning midlife. In S. Hunter, M. Sundel (Eds.), *Midlife myths: issues, findings and practical implications*, (pp. 8-28). California: Sage.
- Hyman, J. & Summers, J. (2004). Lacking balance? Work-life employment practices in the modern economy. *Personnel review*, 33, 4, 418-429.
- Ismail, M., Rasdi, R. M. & Wahat, N. W. A. (2004). High-flyer women academicians: Factors contributing to success. *Women in Management Review*, 20, 2, 117-132.
- James, J. B. (1990). Women's employment patterns and midlife well-being. In H.Y. Grossman & N.L. Chester (Eds.), *The experience and meaning of work in women's lives*, (pp.103-119). New Jersey: Lawrence Erlbaum.
- Jorgensen, B. (2003). Baby boomers, generation X and generation Y? Policy implications for the defence forces in the modern era. *Foresight*, 5, 4, 41-49. Retrieved April 27, 2007 from the Emerald database.
- Josselson, R. (1987). *Finding herself: Pathways to Identity Development in Women*. San Francisco: Jossey-Bass.
- Judge, T. A., Cable, D. M., Boudreau, J. W., & Bretz, R. D. (1995). An empirical investigation of the predictors of executive career success. *Personnel Psychology*, 48, 3, 485-519. Retrieved June 24, 2006, from the Business Source Premier database.
- Kirchmeyer, C. (1992). Perceptions of nonwork-to-work spillover: Challenging the common view of conflict-ridden domain relationships. *Basic and Applied Social Psychology*, 13, 2, 231-249. Retrieved April 29, 2007 from the Ebscohost database.

- Kirchmeyer, C. (1993). Nonwork-to-work spillover: A more balanced view of the experiences and coping of professional women and men. *Sex Roles*, 28, 9/10, 531-552. Retrieved April 29, 2007 from the Ebscohost database.
- Kirchmeyer, C. (2002). Gender differences in managerial careers: Yesterday, today and tomorrow. *Journal of Business Ethics*, 37, 1, 5-24.
- Kittrell, D. (1998). A comparison of the evolution of men's and women's dreams in Daniel Levinson's theory of adult development. *Journal of Adult Development*, 5, 2, 105-116.
- Kreitner, R. & Kinicki, A. (2001). *Organizational Behavior* (5<sup>th</sup> ed.). McGraw-Hill, Irwin.
- Krishnakumar, S. & Neck, C. P. (2002). The "what", "why" and "how" of spirituality in the workplace. *Journal of managerial Psychology*, 17, 3, 153-164. Retrieved April 30, 2007 from the Emerald database.
- Kurdek, L. A. (1991). The relations between reported well-being and divorce history, availability of a proximate adult and gender. *Journal of Marriage and the Family*, 53, 1, 71-78.
- Lachman, M. E. & James, J. B. (1997). Charting the course of midlife development: an overview. In M. E. Lachman & J. B. James (Eds.). *Multiple paths of midlife development*, (pp. 1-17). Chicago: University of Chicago Press.
- Large, M. & Saunders, N. K. (1995). A decision-making model for analyzing how the glass ceiling is maintained: Unblocking equal promotion opportunities. *International Journal of Career Management*, 7, 2, 21-28. Retrieved July 18, 2007 from the Emerald Database.
- Latham, G.P. & Pinder, C.C. (2005). Work motivation theory and research at the dawn of the twenty-first century. *Annual Review Psychology*, 56, 485-516.
- Lau, V. P. & Shaffer, M. A. (1999). Career success: The effects of personality. *Career Development International*, 4, 4, 225-231. Retrieved March 22, 2006, from the Emerald database.
- Leibowitz, Z. B., Kaye, B. L. & Farren, C. (1990). What to do about career gridlock? *Training & Development Journal*, 44, 4, 28-34. Retrieved May 06, 2007 from the Academic Search Premier database.
- Levinson, D. J. (1978). *The seasons of a man's life*. New York: Knopf.
- Levinson, D. J. (1986). A conception of adult development. *American Psychologist*, 41, 3-13.
- Levinson, D. J. (1990). *The seasons of a woman's life*. New York: Knopf.
- Lindh-Astrand, L., Hoffmann, M., Hammar, M. & Kjellgren, K.I. (2007). Women's conception of the menopausal transition – a qualitative study. *Journal of Clinical Nursing*, 16, 3, 509-517. Retrieved August 10, 2007 from the Ebscohost database.
- Lindholm, J. A. (2004). Pathways to the professoriate: The role of self, others, and environment in shaping academic career aspirations. *The Journal of Higher Education*, 75, 6, 603-635.
- Lippert, L. (1997). Women at midlife: Implications for theories of adult development. *Journal of Counseling and Development*, 76, 1, 16-23. Retrieved May 10, 2004 from the Academic Search Premier database.
- Lips-Wiersma, M. (2002). Analysing the career concerns of spiritually oriented people: lessons for contemporary organizations. *Career Development International*, 7, 7, 385-397. Retrieved April 30, 2007 from the Emerald database.

- London, M. (1993). Relationships between career motivation, empowerment and support for career development. *Journal of Occupational and Organizational Psychology*, 66, 55-69.
- London, M. & Noe, R. A. (1997). London's career motivation theory: An update on measurement and research. *Journal of Career Assessment*, 5, 1, 61-80.
- Louw, Dirk J. (1998). Ubuntu: An African Assessment of the Religious Other. *Twentieth World Congress of Philosophy*. Retrieved May 25, 2007 from [www.bu.edu/wcp/Papers/Afri/AfriLouw.htm](http://www.bu.edu/wcp/Papers/Afri/AfriLouw.htm)
- Louw, D. A., van Ede, D. M. and Louw, A. E. (1998). *Human development*, (2<sup>nd</sup> Ed). Cape Town, South Africa: Kasigo Tertiary.
- Lu, Y. (2005). Sibship size, family organization and children's education in South Africa: Black-white variations. *International Sociological Association Research Committee on Social Stratification and Mobility (RC28)*, Los Angeles, August 2005. Retrieved July 29, 2007 from [http://www.ccpr.ucla.edu/asp/ccpr\\_045\\_05.asp](http://www.ccpr.ucla.edu/asp/ccpr_045_05.asp)
- Luzzo, D.A. (1996). A psychometric evaluation of the career decision-making self efficacy scale. *Journal of Counseling & Development*, 74, 3, 276-280. Retrieved February 25, 2006 from the MasterFILE premier database.
- Maas, H. S. (1989). Social responsibility in middle age: Prospects and preconditions. In S. Hunter, M. Sundel (Eds.), *Midlife myths: issues, findings and practical implications* (pp. 253-271). California: Sage Publications.
- MacCallum, R. C. (1995). Model specification: Procedures, strategies, and related issues. In R. H. Hoyle (Ed.), *Structural equation modelling: Concepts, issues, and applications* (pp. 16-36). California: Sage Publications.
- MacCallum, R. C. & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51, 201-226.
- Maddux, J. E. (1995). *Self-efficacy, adaptation and adjustment: Theory, research and application*. New York: Plenum Press.
- Makosana, I. N. Z. (1997). *Social factors in the positioning of Black women in South African universities*. Doctoral Dissertation Teachers Education College, Columbia University.
- Marcia, J. E. (2002). Identity and psychosocial development in adulthood. *Identity: an International Journal of Theory and Research*, 2, 1, 7-28.
- Martin, C.A. (2005). From high maintenance to high productivity: what managers need to know about Generation Y. *Industrial and Commercial Training*, 37, 1, 39-44.
- Mathur-Helm, B. (2006). Women and the glass ceiling in South African banks: an illusion or reality? *Women in Management Review*, 21, 4, 311-326. Retrieved July 18, 2007 from the Emerald Database.
- Matthews, K. A., Wing, R. R., Kuller, L. H., Meilahn, E. M., Kelsey, S. E., Costello, E. J. & Caggiula, A. W. (1990). Influences of natural menopause on psychological characteristics and symptoms of middle-aged healthy women. *Journal of Consulting and Clinical Psychology*, 58, 3, 345-351. Retrieved April 27, 2004 from the PsycARTICLES database.
- Maurtin-Caimcross, A. (2005). 'Stopping before we start...'. Could self-doubt about the quality of publications be interpreted as a barrier to publishing by prospective authors? *South African Journal of Higher Education*, 19, 1, 59-72.
- McClelland, D. C. (1962). Business drive and national achievement. *Harvard Business Review*, 40, 4, 99-113. Retrieved February 19, 2006 from the Business Source Premier database.

- McClelland, D. C., & Burnham, D. H. (1976). Power is the great motivator. *Harvard Business Review*, 54, 2, 100-110. Retrieved February 19, 2006, from the Business Source Premier database.
- Meaning of Work (MOW) (1987). *The Meaning of Work*, London: Academic Press.
- Melamed, T. (1995). Career success: the moderating effect of gender, *Journal of Vocational Behaviour*, 47, 35-60.
- Merriam, S. B. (1999). Time as the integrative factor. *New Directions for Adult and Continuing Education*, 84, 67-78. Retrieved May 12, 2004 from the Academic Search Premier database.
- Miller, J. W., Coombs, W. T., & Fuqua, D. R. (1999). An examination of psychometric properties of Bandura's multidimensional scales of perceived self-efficacy. *Measurement & Evaluation in Counseling & Development*, 31, 4, 186-199. Retrieved February 25, 2006 from the MasterFILE Premier database.
- Millman, J., Czaplewski, A. J. & Ferguson, J. (2003). Workplace spirituality and employee work attitudes. *Journal of Organizational Change Management*, 16, 4, 426-447. Retrieved April 30, 2007 from the Emerald database.
- Minter, L. E. & Samuels, C. A. (1988). The impact of 'the dream' on women's experience of the midlife transition. *Journal of Adult Development*, 5, 1, 31-44. Retrieved March 26, 2004 from the Academic Search Premier database.
- Mkabela, Q. (1999). Women in Higher Education: An account of women in Kwa-Zulu Natal universities. *Perspectives in Education*, 18, 2, 91-96.
- Morison, R., Erickson, T. & Dychtwald, K. (2006). Managing middlecence. *Harvard Business Review*, 84, 3, 78-86. Retrieved June 05, 2007 from the Business Source Premier database.
- Morley, L. (2000). The micropolitics of gender in the learning society. *Higher Education in Europe*, 25, 2, 229-236. Retrieved November 04, 2003 from the Academic Search Premier database.
- Morley, L. (2001). Subjected to review: Engendering quality and power in higher education. *Journal of Education Policy*, 16, 5, 465-478.
- Nabi, G. R. (1999). An investigation into the differential profile of predictors of objective and subjective career success. *Career Development International*, 4, 4, 212-225. Retrieved March 22, 2006 from the Emerald database.
- Nabi, G. R. (2003). Situational characteristics and subjective career success: The mediating role of career-enhancing strategies. *International Journal of Manpower*, 24, 6, 653-672.
- Nachbagauer, A. G. M. & Riedl, G. (2002). Effects of concepts of career plateaus on performance, work satisfaction and commitment. *International Journal of Manpower*, 23, 8, 716-733. Retrieved May 06, 2007 from the Emerald database.
- National Research Foundation, (2003). *NRF Centres of Excellence, First Call for Pre-Proposals*, August 29<sup>th</sup> 2003. <http://www.nrf.ac.za/centers/>
- Nel, P. S., van Dyk, P. S., Haasbroek, G. D., Schultz, H. B., Sono, T. & Werner, A. (2004). *Human Resources Management* (6th ed.). South Africa: Oxford University Press.
- Newell, S. (1996). The superwoman syndrome: a comparison of the "heroine" in Denmark and the UK. *Women in Management Review*, 11, 5, 36-41.

- Notman, M. (1979). Midlife concerns of women: implications of the menopause. *American Journal of Psychiatry*, 136, 127-141.
- Orlofsky, J. L., Marcia, J.E. & Lesser, I. M. (1973). Ego identity status and the intimacy versus isolation crisis of young adulthood. *Journal of Personality and Social Psychology*, 27, 2, 211-219. Retrieved August 09, 2007 from the PsycARTICLES database.
- O'Neil, D. A., Bilimoria, D. & Saatcioglu, A. (2004). Women's career types: attributions of satisfaction with career success. *Career Development International*, 9, 5, 478-500. Retrieved March 22, 2006 from the Emerald database.
- Pallant, J. (2005). *SPSS Survival Manual: a step by step guide to data analyzing using SPSS for Windows (Version 12) (2<sup>nd</sup> ed.)*. London: Open University Press.
- Pallant, J. (2006). *SPSS survival manual*. London: Open University Press.
- Peck, R. C. (1968). Psychological developments in the second half of life. In B. L. Neugarten (Ed.), *Middle age and ageing* (pp. 88-92). University of Chicago Press.
- Peterson, B. E. & Duncan, L. E. (1999). Generative concern, political commitment, and charitable actions. *Journal of Adult Development*, 6, 2, 105-119. Retrieved May 22, 2004 from Academic Search Premier database.
- Phillips, S.D. & Imhoff, A.R. (1997). Women and career development: A decade of research. *Annual Review of Psychology*, 48, 1, 31-59.
- Pieterse, F.L., & Engelbrecht, A. S. (2005). The strategic partnership role of senior human resource managers in South African organisations. *Management Dynamics*, 14, 4, 47-58.
- Poole, M. & Bornholt, L. (1998). Career development of academics: Cross-cultural and lifespan factors. *International Journal of Behavioral Development*, 22, 1, 103-126.
- Powell, G. N. & Mainiero, L. A. (1992). Cross-currents in the river of time: Conceptualizing the complexities of women's careers. *Journal of Management*, 18, 2, 215-237.
- Price, A. (2004). *Human resource management in a business context (2<sup>nd</sup> ed.)*. London: Thomson.
- Prozesky, H. (2005, June). *Gender, journal publication productivity and job level attainment among South African academic authors*. Paper presented at SASA Congress, Polokwane, South Africa
- Rana, B. K., Kagan, C., Lewis, S. & Rout, U. (1998). British South Asian women managers and professionals: Experiences of work and family. *Women in Management Review*, 13, 6, 221-232. Retrieved April 27, 2007 from the Emerald database.
- Raup, J. L. & Myers, J. E. (1989). The empty nest syndrome: myth or reality? *Journal of Counseling and Development*, 68, 2, 180-184.
- Reis, H. T., Lin, Y., Bennett, E., Nezelek, J. B. (1993). Change and consistency in social participation during early adulthood. *Developmental Psychology*, 29, 4, 633-645. Retrieved August 09, 2007 from the PsycARTICLES database.
- Rollins, B. C. (1989). Marital quality at midlife. In S. Hunter, M. Sundel (Eds.), *Midlife myths: issues, findings and practical implications*, (pp. 184-194). California: Sage.
- Ross-Gordon, J. M. (1999). Gender development and gendered adult development. *New Directions for Adult and Continuing Education*, 84, 29-38.

- Rossi, J. (2006). Twenty something's in training. *Training & Development*, 60, 11, 50-53. Retrieved May 06, 2007 from the Business Source Premier database.
- Rousseau, D. (2001). Shema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational & Organizational Psychology*, 74, 4, 511-542. Retrieved February, 25, 2005 from Academic Search Premier.
- Ruderman, M.N., Ohlott, P.J., Panzer, K. & King, S.N. (2002). Benefits of multiple roles for managerial women. *Academy of Management Journal*, 45, 2, 369-386. Retrieved April 29, 2007 from the Ebscohost database.
- Ryan, M. & Haslam, A. (2006). What lies beyond the glass ceiling? *Human Resource Management International Digest*, 14, 3, 3-5. Retrieved July 18, 2007 from the Emerald database.
- Saunderson, W. (2002). Women, academia and identity: Constructions of equal opportunities in the 'new managerialism' – A case of lipstick on the gorilla? *Higher Education Quarterly*, 56, 4, 376-406.
- Schaupp, D. (1995, August). *A sociological model of career choice and vocational behavior*. Paper presented at the Annual Convention of the American Psychological Association, 103<sup>rd</sup>, New York.
- Schein, E. H. (1978). *Career Dynamics: matching individual and organizational needs*. Philippines: Addison-Wesley.
- Schein, E. H. (1990). *Career Anchors: discovering your real values*. San Francisco: Jossey-Bass/Pfeiffer.
- Schein, E.H. (1996). Career anchors revisited: Implications for career development in the 21<sup>st</sup> Century. *Academy of Management Executive*, 10, 4, 80-89. Retrieved September 29, 2003 from the Business Source Premier database.
- Schneer, J. A. & Reitman, F. (2002). Managerial Life without a wife: Family structure and managerial career success. *Journal of Business Ethics*, 37, 1, 25-38.
- Schreuder, A. M .G. & Theron, A. L. (1997). *Careers: an organisational perspective*. South Africa: Juta & Co. Ltd.
- Schreuder, A. M. G. & Coetzee, M. (2006). *Careers: an organisational perspective* (3<sup>rd</sup> ed.). South Africa: Juta & Co. Ltd.
- Schreiber, P. J. (1998). Women's career development patterns. *New Directions for Adult and Continuing Education*, 80, 5-13.
- Schwarzer, R. & Scholz, U. (2000, August). *Cross-cultural assessment of coping resources: The general perceived self-efficacy scale*. Paper presented at the Asian Congress of Health Psychology: Health Psychology and Culture, Tokyo, Japan. Retrieved February 16, 2006 from [http:// web.fu-berlin.de/gesund/publicat/world\\_data.htm](http://web.fu-berlin.de/gesund/publicat/world_data.htm).
- Schyns, B. & von Collani, G. (2002). A new occupational self-efficacy scale and its relation to personality constructs and organizational variables. *European Journal of Work and Organizational Psychology*, 11, 2, 219-241. Retrieved February 25, 2006 from the Business Source Premier database.
- Scott, J. & Hatalla, J. (1990). The influence of chance and contingency factors on career patterns of college-educated women. *Career Development Quarterly*, 39, 1, 18-31. Retrieved December 19, 2003 from the Ebscohost database.



- Seibert, S. E., Kraimer, M. L., Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal*, 44, 2, 219-238. Retrieved June 27, 2006, from the Business Source Premier database.
- Shackleton, L., Simonis, S. & Riordan, S. (2003) Setting the scene. (Working Paper 1). *Gender Equity in Commonwealth Higher Education Project*, London University.
- Sharf, R. S. (2002). *Applying career development theory to counseling* (3<sup>rd</sup> ed.). California: Brooks/Cole Thomson Learning.
- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports*, 51, 663-671.
- Sheehy, G. (1976). *Passages: predictable crises of adult life*. New York: Bantam Books Inc.
- Sheehy, G. (1995). *New Passages: Mapping your life across time*. New York: Ballantine Books.
- Shutte, A. (1993). *Philosophy for Africa*. South Africa: University of Cape Town Press.
- Sigelman, C. K. & Rider, E. A. (2006). *Life-span Human Development* (5<sup>th</sup> ed.). Canada: Thomson Learning Inc.
- Simonetti, J. L. (1999). The key pieces of the career survival and success puzzle. *Career Development International*, 4, 6, 312-317. Retrieved October 7, 2006, from the Emerald database.
- Simpson, R. (2000). The time bonded glass ceiling and young women managers: Career progress and career success - evidence from the UK. *Journal of European Industrial Training*, 24, 2/3/4, 190-198. Retrieved July 18, 2007 from the Emerald database.
- Slater, C. L. (2003). Generativity versus stagnation: An elaboration of Erikson's adult stage of human development. *Journal of Adult Development*, 10, 1, 53-66. Retrieved May 19, 2004 from the Academic Search Premier database.
- Statistics South Africa (2004). *Marriages and divorces*. Statistical release P0307. Pretoria, South Africa: Government printer.
- Stewart, A. J., Ostrove, J. M. & Helson, R. (2001). Middle aging in women: Patterns of personality change from the 30s to the 50s. *Journal of Adult Development*, 8, 1, 23-38. Retrieved May 20, 2005 from the Academic Search Premier database.
- Sonn, C. C. & Fisher, A. T. (1998). Sense of community: community resilient responses to oppression and change. *Journal of Community Psychology*, 26, 5, 457-472.
- South Africa. (1998). Employment equity Act, no. 55 of 1998. Pretoria, South Africa: Government Printer.
- South Africa. (2000). Promotion of equality and prevention of unfair discrimination Act, no. 4 of 2000. Pretoria, South Africa: Government Printer.
- South Africa. (2001). *National Plan for Higher Education*. Department of Education, Pretoria, South Africa: Government Printer.
- South Africa. (2002). Department of Labour, Government Gazette 23732, 15 August. Pretoria, South Africa: Government Printer.
- South African Higher Education (2006), South African Universities Vice-Chancellors Association. Retrieved 13 September, 2006 from <http://web.archive.org/web/20050301015907/http://www.sauvca.org.za/highered/>

- South African Institute of Race Relations. (2003). *South African Survey: 2002/2003*. Johannesburg, South Africa: J. Henderson.
- Stanley, K. D. & Murphy, M. R. (1997). A comparison of general self-efficacy with self-esteem. *Genetic, Social and General Psychology Monographs*, 123, 1, 81-100. Retrieved February 25, 2006 from the MasterFILE Premier database.
- Sturges, J. (1999). What it means to succeed: Personal conceptions of career success held by male and female managers at different ages. *British Journal of Management*, 10, 3, 239-253. Retrieved February 28, 2006, from the Business Source Premier database.
- Sullivan, K. R. & Mahalik, J. R. (2000). Increasing career self-efficacy for women: Evaluating a group intervention. *Journal of Counseling & Development*, 78, 1, 54-62. Retrieved February 25, 2006, from the MasterFILE Premier Database.
- Summers, L. H. (2005). *Remarks at NBER Conference on Diversifying the Science & Engineering Workforce*. Retrieved July 24, 2007 from [www.president.harvard.edu/speeches/2005/nber.html](http://www.president.harvard.edu/speeches/2005/nber.html).
- Tamir, L. M. (1989). Modern myths about men at midlife: An assessment. In Hunter, S. & Sundel, M. (Eds.), *Midlife myths: issues, findings and practical implications* (pp. 157-179). California: Sage.
- Taylor, K. M. & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, 22, 1, 63-81. Retrieved June 25, 2006 from the Science Direct database.
- Thomas, K. M., Bierema, L. & Landau, H. (2004). Advancing women's leadership in academe: New directions for research and HRD practice. *Equal Opportunities International*, 23, 7/8, 62-77. Retrieved July 18, 2007 from the Emerald database.
- Tipping, L. M. (1997). Work and family roles: finding a new equilibrium. In H. S. Farmer & Associates (Eds.), *Diversity and Women's Career Development* (pp. 243-268), California. California: Sage Publications Inc.
- Tisdell, E. J. (1999). The spiritual dimension of adult development. *New Directions for Adult and Continuing Education*, 84, 87-96. Retrieved July 19, 2007 from the Academic Search Premier database.
- Trent, K. & South, S. J. (1989). Structural determinants of the divorce rate: A cross-societal Analysis. *Journal of Marriage & Family*, 51, 2, 391-404.
- Troll, L. E. (1989). Myths of midlife intergenerational relationships. In S. Hunter, M. Sundel (Eds.), *Midlife myths: issues, findings and practical implications* (pp. 210-231). California: Sage.
- Turban, D. B. & Doherty, T. W. (1994). Role of protégé personality in receipt of mentoring and career success. *Academy of Management Journal*, 37, 3, 688-702.
- Tutu, D. (2004). *God has a dream*. London: Rider.
- Vandewater, E. A. & Stewart, A. J. (1997). Women's career commitment patterns and personality development. In M. E. Lachman & J. B. James (Eds.), *Multiple Paths of Midlife Development* (pp. 375-410). University of Chicago Press.
- van Doorne-Huiskes, A., Den Dulk, L. & Schippers, J. (1996). Work-family arrangements in the context of welfare states. In A. van Doorne-Huiskes, L. Den Dulk & J. Schippers (Eds.), *Work-Family Arrangements in Europe*, Theis Thesis, Amsterdam.

- Vroom, V. H. (1964). *Work and Motivation*. New York: John Wiley & Sons.
- Wanous, J. P. (1980) *Organisational entry: Recruitment, selection and socialisation of newcomers*. Philippines: Addison-Wesley.
- Webster, J. (1996). *Shaping women's work: gender, employment and information technology*. New York: Pearson Education.
- West, J. & Lyon, K. (1995). The trouble with equal opportunities: The case of women academics. *Gender and Education*, 7, 1, 51-68. Retrieved March 3, 2005 from the Academic Search Premier database.
- Wheeler, E. A., Ampadu, L. M. & Wangari, E. (2002). Lifespan development revisited: African-centered spirituality throughout the life cycle. *Journal of Adult Development*, 9, 1, 71-79. Retrieved May 20, 2004 from the Academic Search Premier database.
- Whitbourne, S. K., Sneed, J. R. & Skultety, K. M. (2002). Identity processes in adulthood: Theoretical and methodological challenges. *Identity: an International Journal of Theory and Research*, 2, 1, 29-45.
- White, L. K. (1990). Determinants of divorce: A review of research in the eighties. *Journal of Marriage and Family*, 52, 4, 904-912. Retrieved April 29, 2007 from the SocINDEX database.
- White, B. (1995). The career development of successful women. *Women in Management Review*, 10, 3, 4-15. Retrieved June 24, 2006 from the Emerald database.
- Williams, C. P. & Savickas, M. L. (1990). Developmental tasks of career maintenance. *Journal of Vocational Behaviour*, 36, 166.
- Wilson, R. (2003). How babies alter careers for academics. *The Chronicle of Higher Education* L, 50. Retrieved December 10, 2004 from <http://chronicle.com/v50/5015guide.htm>
- Wink, P. & Dillon, M. (2002). Spiritual development across the adult life course: findings from a longitudinal study. *Journal of Adult Development*, 9, 1, 79-95. Retrieved May 20, 2004 from the Academic Search Premier database.
- Woodruff, S. L., & Cashman, J. F. (1993). Task, domain, and general self-efficacy: A reexamination of the self-efficacy scale. *Psychological Reports*, 72, 2, 423-433. Retrieved February 25, 2006 from the Business Source Premier database.
- Young, B. (1992). On careers: Themes from the lives of four Western Canadian women educators. *Canadian Journal of Education*, 17, 2, 148-161. Retrieved March 10, 2005 from the ERIC database.

## **APPENDIX A**

### **CONTENTS PAGE OF PILOT STUDY WORKSHOP BOOKLET**

<b>CONTENTS</b>	<b>Page</b>
Introduction	3
Outcomes	3
Definitions	4
The Meaning of Work	6
Work involvement	8
Life and Career Stages	10
Career Patterns	12
Career Anchors	14
Job Content	20
Job Context	23
Personal circumstances	26
Perceived Constraints	30
Career Actions	31
Career Action Steps	33
References	

## **APPENDIX B**

### **EMAIL MESSAGE DISTRIBUTED TO PARTICIPANTS**

**To all Academic Women**

This is an invitation to participate in a research study that could impact on your Career Development. The career success of academic women varies greatly across those employed in the Higher Education sector and the paucity of academic women in South Africa holding senior university positions is well-documented. I am an Organisational Psychologist and have worked in the higher education sector for 20 years. This study will form part of my doctorate which I am currently doing through UCT under the supervision of Prof Joha Louw-Potgieter. I would be most grateful if you would contribute by completing the anonymous questionnaire accessed via the link below. Women academics employed in eleven South African universities are participating in this study and the results will form recommendations about Career Development Policy that will be circulated to all participating universities.

I have obtained formal permission from all relevant bodies in each university before contacting you. I am acutely aware that time is precious but believe that your contribution of about 35 minutes to complete the questionnaire will increase understanding in this area. Greater numbers will lend strength to the results, so please participate by clicking on the electronic link below.

Thank you very much.

Sarah Riordan

<http://www.commerce.uct.ac.za/~riordan>

## **APPENDIX C**

### **QUESTIONNAIRE PARTICIPANT INFORMATION SHEET**

**Dear Participant**

I am a doctoral student at the University of Cape Town and have permission from the relevant authorities in your university to invite you to be a participant in this study. I obtained your contact details via your university.

I am gathering data about the career experiences of women academics employed in South African universities. The low number of women holding senior positions in Higher Education institutions throughout the world is consistent and qualitative research in this field is well-documented. Quantitative research in the area is sparse and this study aims to make a contribution in this regard by seeking to understand the career development of women within the framework of Organisational Psychology career theory. Furthermore, few policies that directly address the career development of academic women exist. I sincerely hope that you will agree to participate in this study. Participant responses will offer insight into issues that can be translated into policy recommendations for universities that are intended to benefit the career development of women academics.

The data obtained will provide information about selected career constructs amongst women academics in South Africa. If you choose to participate in this study, your response to this questionnaire will remain strictly confidential. Only number codes will be used to ensure all participants remain anonymous and you are free to withdraw from the study at any time without fear of prejudice. You will notice that you are requested to provide personal details at the end of this questionnaire. Once again, your responses will remain strictly confidential but these details are essential to the success of the research project. Past research has shown that demographic variables are important factors to consider when analysing results.

There are no known risks or dangers to you associated with this study. The researcher will not attempt to identify you with the responses to your questionnaire, or to name you as a participant in the study, nor will they facilitate anyone else's doing so. By submitting this online questionnaire to the researcher, you acknowledge that you are participating in this study of your own free will.

The following questionnaire contains 97 questions that are divided into eight sections and should take about 35–40 minutes to complete. Please read the instructions for each section carefully as they differ in each section.

**I remain very grateful to all who agree to participate.**

**Yours sincerely**

**Sarah Riordan**

## QUESTIONNAIRE

Note: The format of this questionnaire was altered slightly to accommodate electronic responses (drop down menus) however, the content remained the same.

### SECTION ONE

This section contains THREE questions about the role of working in your life.

Please answer the following questions.

1. How important and significant is working in your total life? (Circle any one of the scores)

One of the least important things in my life	1	2	3	4	5	6	7	One of the most important things in my life.
--	---	---	---	---	---	---	---	--

2. Assign a total of 100 points to indicate how important the following areas are in your life at the present time.

- A \_\_\_\_\_ My leisure (includes hobbies, sports, recreation and contacts with friends)
- B \_\_\_\_\_ My community (includes voluntary organizations, union and political organizations).
- C \_\_\_\_\_ My work
- D \_\_\_\_\_ My spirituality (includes religious or spiritual activities)
- E \_\_\_\_\_ My family

(100 total)

3. A seven-day week consists of 168 hours.  
How many hours per week do you typically spend on work related activities.

- A \_\_\_\_\_ < 50 (less than 50 hours per week)
- B \_\_\_\_\_ 50 – 70 (between 50 and 70 hours per week)
- C \_\_\_\_\_ >70 (more than 70 hours per week).

## SECTION TWO

This section contains FOUR questions on how successful you feel about your career.

NOTE: These scales have SEVEN response options

1. I am satisfied with the success I have achieved in my career. (Circle any one of the scores)

Not at all satisfied	1	2	3	4	5	6	7	Extremely satisfied
				Moderately satisfied				

2. Compared with my co-workers my career progress has been (Circle any one of the scores)

Much less successful	1	2	3	4	5	6	7	Much more successful
			About the same					

3. How successful do your 'significant others' feel your career has been?

Not at all successful	1	2	3	4	5	6	7	Extremely successful
			Moderately successful					

4. Given your age, do you think that your career is (Circle any one of the scores)

Far behind schedule	1	2	3	4	5	6	7	Far ahead of schedule
			On schedule					



### SECTION THREE

This section contains EIGHT questions on how you feel about career challenges.

Please use the following scale to rate your responses. Write the number of your response in the space provided after each question number.

NOTE: This scale has SIX response options.

Completely true	1	2	3	4	5	6	Not at all true
--------------------	---	---	---	---	---	---	--------------------

1. \_\_\_\_\_ If I am in trouble at work, I can usually think of something to do.
2. \_\_\_\_\_ Thanks to my resourcefulness, I know how to handle unforeseen situations in my job
3. \_\_\_\_\_ I can remain calm when facing difficulties in my job because I can rely on my abilities.
4. \_\_\_\_\_ When I am confronted with a problem in my job, I can usually find several solutions.
5. \_\_\_\_\_ No matter what comes my way in my job, I'm usually able to handle it.
6. \_\_\_\_\_ My past experiences in my job have prepared me well for my occupational future.
7. \_\_\_\_\_ I meet the goals that I set for myself in my job.
8. \_\_\_\_\_ I feel prepared to meet most of the demands in my job.

#### SECTION FOUR

This section contains 40 questions about your ideal career.

For each of the next forty items, rate how true the item is for you in general by assigning a number from 1 to 6. The higher the number, the more that item is true for you. Avoid extreme ratings except in situations in which you clearly have strong feelings in one direction or the other.

Please use the following scale to rate how true each of the items is for you:

- | Never true<br>for me | Occasionally true<br>for me | Often true<br>for me | Always true<br>for me |   |   |
|----------------------|-----------------------------|----------------------|-----------------------|---|---|
| 1                    | 2                           | 3                    | 4                     | 5 | 6 |
- 
- \_\_\_ 1. I dream of being so good at what I do that my expert advice will be sought continually.
  - \_\_\_ 2. I am most fulfilled in my work when I have been able to integrate and manage the efforts of others.
  - \_\_\_ 3. I dream of having a career that will allow me the freedom to do a job my own way and on my own schedule.
  - \_\_\_ 4. Security and stability are more important to me than freedom and autonomy.
  - \_\_\_ 5. I am always on the lookout for ideas that would permit me to start my own enterprise.
  - \_\_\_ 6. I will feel successful in my career only if I have a feeling of having made a real contribution to the welfare of society.
  - \_\_\_ 7. I dream of a career in which I can solve problems or win out in situations that are extremely challenging.
  - \_\_\_ 8. I would rather leave my university than be put into a job that would compromise my ability to pursue personal and family concerns.
  - \_\_\_ 9. I will feel successful in my career only if I can develop my technical or functional skills to a very high level of competence.
  - \_\_\_ 10. I dream of being in charge of a complex organization and making decisions that affect many people.
  - \_\_\_ 11. I am most fulfilled in my work when I am completely free to define my own tasks, schedules and procedures.
  - \_\_\_ 12. I would rather leave my university altogether than accept an assignment that would jeopardise my security in that university.
  - \_\_\_ 13. Building my own business is more important to me than achieving a high-level managerial position in someone else's organisation.
  - \_\_\_ 14. I am most fulfilled in my career when I have been able to use my talents in the service of others.
  - \_\_\_ 15. I will feel successful in my career only if I face and overcome very difficult challenges.
  - \_\_\_ 16. I dream of a career that will permit me to integrate my personal, family, and work needs.

- \_\_\_ 17. Becoming a senior functional manager in my area of expertise is more attractive to me than becoming a general manager.
- \_\_\_ 18. I will feel successful in my career only if I become a general manager in an organisation.
- \_\_\_ 19. I will feel successful in my career only if I achieve complete autonomy and freedom.
- \_\_\_ 20. I seek jobs in organizations that will give me a sense of security and stability.
- \_\_\_ 21. I am most fulfilled in my career when I have been able to build something that is entirely the result of my own ideas and efforts.
- \_\_\_ 22. Using my skills to make the world a better place to live and work in is more important to me than achieving a high-level managerial position.
- \_\_\_ 23. I have been most fulfilled in my career when I have solved seemingly unsolvable problems or won out over seemingly impossible odds.
- \_\_\_ 24. I feel successful in life only if I have been able to balance my personal, family, and career requirements.
- \_\_\_ 25. I would rather leave my university than accept a rotational assignment that would take me out of my area of expertise.
- \_\_\_ 26. Becoming a general manager is more attractive to me than becoming a senior functional manager in my current area of expertise.
- \_\_\_ 27. The chance to do a job my own way, free of rules and constraints, is more important to me than security.
- \_\_\_ 28. I am most fulfilled in my work when I feel that I have complete financial and employment security.
- \_\_\_ 29. I will feel successful in my career only if I have succeeded in creating or building something that is entirely my own product or idea.
- \_\_\_ 30. I dream of having a career that makes a real contribution to humanity and society.
- \_\_\_ 31. I seek out work opportunities that strongly challenge my problem solving and/or competitive skills.
- \_\_\_ 32. Balancing the demands of personal and professional life is more important to me than achieving a high-level managerial position.
- \_\_\_ 33. I am most fulfilled in my work when I have been able to use my special skills and talents.
- \_\_\_ 34. I would rather leave my university than accept a job that would take me away from the general managerial track.
- \_\_\_ 35. I would rather leave my university than accept a job that would reduce my autonomy and freedom.
- \_\_\_ 36. I dream of having a career that will allow me to feel a sense of security and stability.
- \_\_\_ 37. I dream of starting up and building my own business.
- \_\_\_ 38. I would rather leave my university than accept an assignment that would undermine my ability to be of service to others.

- \_\_\_\_ 39. Working on problems that are almost unsolvable is more important to me than achieving a high-level managerial position.
- \_\_\_\_ 40. I have always sought out work opportunities that would minimize interference with personal or family concerns.

**VERY IMPORTANT:** At this point, look over your answers and locate all of the items that you rated highest in this **Section Four ONLY**. Pick out the **THREE** items that seem most true for you and give each of those items an additional **FOUR (4)** points.

University of Cape Town

## SECTION FIVE

This section contains 21 questions about your strategic role in your university.

Please use the following scale to indicate your response to the following statements.

NOTE: This scale has FIVE response options.

Strongly Disagree 1      Disagree 2      Not sure 3      Agree 4      Strongly agree 5

STATEMENT	Rating
1. Senior university leaders and the Vice-Chancellor in my university expect me to participate in strategic university decisions.	
2. Senior university leaders and the Vice-Chancellor in my university expect me to contribute to the achievement of university goals.	
3. Being a strategic decision-maker in the university determines my success as an academic.	
4. I am expected to develop programmes and processes that link academic strategy with university strategy.	
5. My competency as a strategic decision-maker is included in my performance appraisal	
6. I am informed of important strategic meetings in my university.	
7. I am expected to attend and participate in strategic meetings in my university.	
<b>IN MY CURRENT ROLE I HAVE THE OPPORTUNITY TO:</b>	
8. Form networks with other faculties or university departments.	
9. Participate in the setting of university goals.	
10. Participate in the determination of methods and procedures that contribute to the achievement of university goals	
11. Be sufficiently informed to have a holistic view of the university.	
12. Contribute to the achievement of university goals.	
13. Be an active decision-maker in university planning.	
14. Be a university decision-maker.	
<b>RESPOND TO THE FOLLOWING STATEMENTS:</b>	
15. Being a university decision-maker is not important to me.	
16. I feel upset when I am not informed of an important meeting.	
17. It gives me a great deal of pride and satisfaction if I am asked to give my opinion on strategic issues in the university.	

18. It gives me a sense of self-worth if I can help my university to reach its goals by aligning academic strategy with university strategy.	
19. If I had a choice, I would not be involved in defining university strategy.	
20. It is important to me to be an active participant in university planning.	
21. Being a strategic decision maker would lead to important work outcomes in my university (e.g promotion, bonus, raise)	

University of Cape Town

## SECTION SIX

This section contains FOUR questions about your personal circumstances.

Please place an X in the appropriate block. Question 2 may require more than one X.

1. My marital status	Never married	Married	Divorced	Widowed	Separated	Living with partner
2. My care-giving responsibilities (includes children, aging relatives)	None	Partner	Dependent children		Aging relatives	
3. Allocation of domestic responsibilities (includes cleaning, cooking, care-giving)	All done by me	More than 50% done by me	Shared equally with partner or other adult family members		Mainly performed by external help employed (e.g. domestic servants, child minders)	
4. My contribution to household income is	The only source of income in my household		The primary source of income in my household	A lesser/secondary source of income in my household		An equal contribution in my household
5. I receive encouragement from my significant others to build a successful career	Never		Sometimes		Often	

## SECTION SEVEN

This section contains 18 questions about your work circumstances.  
Please complete the following questions by placing an X in the appropriate block.

1. Total length of service in Higher Education		Less than 10 years		10-20 years		More than 20 years		
2. Highest university position held	Junior Lecturer	Lecturer	Senior Lecturer	Assoc. Professor	Professor	Director Dean DVC		
3. Age when highest position was attained		20s	30s	40s	50s	60s		
4. Highest academic qualification		Honours Degree		Masters Degree		PhD		
5. Age when highest academic qualification was attained		20s	30s	40s	50s	60s		
6. Assign a total of 100 points to indicate how you allocate time spent on your various work activities. A ____ Teaching (including preparation and assessment) B ____ Research (including research supervision) C ____ Community/professional service D ____ Administration (including serving on committees) E ____ Management of staff F ____ Other (please specify) _____ (100 total)								
<b>RESEARCH</b>								
7. Number of peer reviewed articles in accredited journals produced		None	Less than 10	10 - 25	25 - 50	More than 50		
8. Value of research grants received in the past 5 years (to nearest R 000). (Does not include bursaries)								
Less than R10 000	R10 000 – R49 000	R50 000 – R99 000	R100 000 – R249 000	R250 000 – R1 million	R1 million – R2 million	More than R2 million		
9. NRF rating	A1	A2						
	B1	B2						B3
	C1	C2						C3
	P							
	Y1	Y2						
	L							
	Not rated							
10. Number of conferences attended as invited speaker		None	Less than 10	10 - 25	25 - 50	More than 50		



TEACHING						
11. Student evaluations regularly rated as	Excellent	Good	Average	Fair	Poor	N/A
12. Research and professional activities are reflected in teaching	Always	Often	Sometimes	Seldom	Never	N/A
13. Plays a leadership role in curriculum development	Always	Often	Sometimes	Seldom	Never	N/A
ADMINISTRATION, MANAGEMENT AND LEADERSHIP						
14. Plays a leadership role in departmental or faculty administration	Always	Often	Sometimes	Seldom	Never	N/A
15. Plays a leadership role in dept. or faculty management (includes permanent/acting leadership roles, course convenor, mentorship of junior staff or similar)	Always	Often	Sometimes	Seldom	Never	N/A
16. I am a <i>member</i> of the following committees (please mark with a X)						
Senate	Research			None		
Institutional Forum	Selection			Finance		
Other (Please specify)						
COMMUNITY/PROFESSIONAL SERVICE						
17. Plays a leadership role in specialist work or professional association	Always	Often	Sometimes	Seldom	Never	N/A
18. Has substantial interaction with professional associations, NGO's, government agencies or community projects	Always	Often	Sometimes	Seldom	Never	N/A

## BIOGRAPHICAL DETAILS

Please complete the following. All information will remain strictly confidential.

Name of institution where you are currently employed

UCT	UFH	UFS	UKZN	UP	RU	US	UWC	UWW	NWU	UL
-----	-----	-----	------	----	----	----	-----	-----	-----	----

Previous race classification\* (please mark with an X)

BLACK	COLOURED	INDIAN	WHITE	N/A
-------	----------	--------	-------	-----

Age group\* (please mark with an X)

Below 35	35-39	40-44	45-49	50-54	55-60	Over 60
----------	-------	-------	-------	-------	-------	---------

\* Past research has shown that demographic variables are important factors to consider when analysing results.

To submit this questionnaire, please read the following sentence and then return the document to the sender.

"I acknowledge that I am participating in this study of my own free will. I understand that I may refuse to participate or stop participating at any time without penalty".

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE

## APPENDIX D

### QUESTIONNAIRE SOURCES

Sec	Scale	Total items	Variable under investigation	Source	Cronbach alpha coefficient (literature)	Cronbach alpha coefficient (this study)
1	Meaning of work (Q29 & 30) Plus one question on time spent on work activities	2 1	Work centrality	MOW International Research team (1987)	n/a	n/a
2	Perceived career success	4	Subjective career success	Turban & Dougherty (1994); Kirchmeyer (2002)	0.87 0.92	0.82
3	Occupational Self-efficacy Scale (short version)	8	Self-efficacy	Schyns & Von Collani (2002)	0.88	0.87
4	Career Orientations Inventory: -Tech competence -Mgr competence -Autonomy -Security -Entrepreneurship -Service -Challenge -Lifestyle	40 4 5 5 5 5 5 5 5	Career Anchors	Schein (1990)(scale)  Ellison & Schreuder (2000) (reliability)	0.59 0.71 0.75 0.78 0.75 0.73 0.70 0.64	0.59 0.60 0.78 0.81 0.76 0.83 0.79 0.80
5	Strategic Role Expectancy Strategic Role Opportunity Strategic Role Valence Instrumentality	7 7 6 1	Motivation	Pietersen & Engelbrecht (2005)	0.79 0.78 0.64	0.78 0.83 0.84
6	Size of family Nature of care-giving responsibility	5	Care giving responsibilities	Researcher (based on Shneer & Rietman, 2002)	n/a	n/a
7	Job level Research outputs Leadership roles	18	Objective career success	Researcher	n/a	n/a
8	Institution Race Age	3	Demographics of participant	Researcher	n/a	n/a

## APPENDIX E

### DEFINITION OF NRF RATING CATEGORIES

A	Researchers who are unequivocally recognised by their peers as leading international scholars in their field for the high quality and impact of their recent research outputs.	A1	A researcher in this group is recognised by all reviewers as a leading scholar in his or her field internationally for the high quality and wide impact (i.e. beyond a narrow field of specialisation) of his/her recent research outputs.
		A2	A researcher in this group is recognised by the over-riding majority of reviewers as a leading scholar in his or her field internationally for the high quality and impact (either wide or confined) of his or her recent research outputs.
		B1	All reviewers concur that the applicant is an independent researcher of high quality enjoying considerable international recognition with some of them indicating that he/she is a leading international scholar in the field.
B	Researchers who enjoy considerable international recognition by their peers for the high quality of their recent research outputs.	B2	Reviewers are firmly convinced that the applicant is an independent researcher enjoying considerable international recognition for the high quality and impact of his/her recent research outputs.
		B3	Most of the reviewers are convinced that the applicant is an independent researcher enjoying considerable international recognition for the high quality and impact of his/her recent research outputs.
C	Established researchers with a sustained recent record of productivity in the field who are recognised by their peers as having:  produced a body of quality work, the core of which has coherence and attests to ongoing engagement with the field  demonstrated the ability to conceptualise problems and apply research methods to investigating them.	C1	While all reviewers concur that the applicant is an established researcher (as described), some of them indicate that he/she already enjoys considerable international recognition for his/her high quality recent research outputs.
		C2	Reviewers are firmly convinced that the applicant is an established researcher (as described).
		C3	Most of the reviewers concur that the applicant is an established researcher (as described).

P	Young researchers (normally younger than 35 years of age), who have held the doctorate or equivalent qualification for less than five years at the time of application and who, on the basis of exceptional potential demonstrated in their published doctoral work and/or their research outputs in their early post-doctoral careers are considered likely to become future leaders in their field.	Researchers in this group are recognised by all or the over-riding majority of reviewers as having demonstrated the potential of becoming future leaders in their field, on the basis of exceptional research performance and output from their doctoral and/or early post-doctoral research careers.
Y	Young researchers (normally younger than 35 years of age), who have held the doctorate or equivalent qualification for less than five years at the time of application, and who are recognised as having the potential to establish themselves as researchers within a five-year period after evaluation, based on their performance and productivity as researchers during their doctoral studies and/or early post-doctoral careers.	<p>Y1 A researcher in this group is recognised by all reviewers as having the potential (demonstrated by research products) to establish him/herself as a researcher with some of them indicating that he/she has the potential to become a future leader in his/her field. (Applicants on the borderline between P and Y should be rated at this level.)</p> <p>Y2 A researcher in this group is recognised by all or the over-riding majority of reviewers as having the potential to establish him/herself as a researcher (demonstrated by recent research products).</p>
L	<p>Persons (normally younger than 55 years) who were previously established as researchers or who previously demonstrated potential through their own research products, and who are considered capable of fully establishing or re-establishing themselves as researchers within a five-year period after evaluation. Candidates should be South African citizens or foreign nationals who have been resident in South Africa for five years during which time they have been unable for practical reasons to realise their potential as researchers. Candidates who are eligible in this category include:</p> <p>black researchers</p> <p>female researchers</p> <p>those employed in a higher education institution that lacked a research environment</p> <p>those who were previously established as researchers and have returned to a research environment.</p>	This category was introduced to draw an increased number of researchers with potential from disadvantaged backgrounds as well as women into research. It also caters for persons previously established as researchers who have returned to a research environment after periods in industry or elsewhere. Applicants must demonstrate that they could not realise their potential or sustain their research ability by virtue of a lack of a research environment, or time spent in industry, or on maternity leave, or raising a family. For candidates to qualify for this category the employing institution must have demonstrated its financial commitment towards a development strategy for the staff member concerned.

Source: NRF website: [www.nrf.ac.za](http://www.nrf.ac.za)